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L1: Entry 1 of 1 File: PGPB May 23, 2002

PGPUB-DOCUMENT-NUMBER: 20020061549
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20020061549 A1

TITLE: Stabilized proteins

PUBLICATION-DATE: May 23, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Marshall, Christopher P.	Brooklyn	NY	US	
Hoffman, Alexander	Los Angeles	CA	US	
Errico, Joseph P.	Far Hills	CA	US	
Marshall, Paul B.	Munich		DE	

US-CL-CURRENT: 435/68.1; 435/198, 530/350, 530/388.1, 530/399

CLAIMS:

What is claimed is:

1. A method for making a stabilized protein or fragment thereof comprising: (a) selecting one or more residue pairs in a polypeptide chain or chains for cross-linking using one or more statistical criteria; and (b) cross-linking the residue pairs.

2. The method of claim 1, wherein the stabilized protein or fragment is selected from the group consisting of a hormone, a receptor, a growth factor, an enzyme and an antibody.

3. The method of claim 2, wherein the enzyme is a lipase or the antibody fragment is an Fv fragment.

4. The method of claim 1, wherein the one or more statistical criteria used for selection of residue pairs in step (a) are selected from the group consisting of statistical filter one through statistical filter six.

5. The method of claim 1, wherein tyrosine residues are cross-linked.

6. The method of claim 6, wherein cross-linking is catalyzed by a catalyst selected from the group consisting of polyhistidine, Gly-Gly-His and metalloporphyrin.

7. The method of claim 6, wherein the cross-linked tyrosine residues are introduced into the stabilized protein complex prior to cross-linking by recombinant nucleic acid methods.

8. A method for identifying a residue pair in a polypeptide chain or chains that, following substitution with tyrosine and cross-linking, is least likely to be disruptive of overall protein structure, comprising applying one or more statistical criteria selected from the group consisting of statistical filter one through statistical filter six.

9. A protein cross-linked by the method of claim 1.

10. A protein comprising at least one di-tyrosine cross-link, which protein retains at least one function displayed by the protein in the absence of di-tyrosine cross-linking.

11. The protein of claim 10, further comprising at least one amino acid which was substituted for a tyrosine residue such that the residue substituted for the tyrosine residue is not cross-linked under cross-linking conditions.

12. The protein of claim 10, wherein the function retained is selected from the group consisting of catalytic activity and binding specificity.

13. The protein of claim 10 which is selected from the group consisting of an enzyme and an antibody or fragment thereof.

14. A pharmaceutical composition comprising the protein of any one of claims 9 to 13.

15. The pharmaceutical composition of claim 14, further comprising a pharmaceutically acceptable carrier.

16. The pharmaceutical composition of claim 14 which is suitable for in vivo use in humans.

17. A kit comprising in one or more containers the protein of any one of claims 9 to 13.

18. A method for making a stabilized protein comprising: (a) selecting one or more residue pairs in a polypeptide chain or chains for cross-linking, wherein the selected residues are tyrosine when cross-linked; and (b) cross-linking the residue pairs.

19. The method of claim 18, wherein the cross-link reaction occurs in the presence of an oxidant selected from the group consisting of hydrogen peroxide, oxone, magnesium monoperxyphthalic acid hexahydrate (MMPP), a photogenerated oxidant, and ammonium persulfate.

20. The method of claim 19, wherein cross-linking is catalyzed by a catalyst selected from the group consisting of polyhistidine, Gly-Gly-His and metalloporphyrin.

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L4: Entry 3 of 4 File: USPT Mar 21, 2000

US-PAT-NO: 6039901
DOCUMENT-IDENTIFIER: US 6039901 A

TITLE: Enzymatically protein encapsulating oil particles by complex coacervation

DATE-ISSUED: March 21, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Soper; Jon C.	Lebanon	OH		
Thomas; M. Teresa	Centerville	OH		

US-CL-CURRENT: 264/4.3; 264/4.33, 428/402.2, 428/402.21

CLAIMS:

What is claimed is:

1. A method of protein-encapsulating oil particles by complex coacervation comprising:

forming a dispersion in water of at least one positively charged protein colloid and at least one negatively charged colloid;

adding an oil to said dispersion and agitating to form a coarse emulsion of oil particles;

first forming a complex coacervate at ambient temperature;

cooling said complex coacervate to a gel temperature in the range of about 20.degree. C. to about 27.degree. C. to deposit a stabilized protein shell around said oil particles and further cooling to a temperature in the range of about 5.degree. C. to 10.degree. C. to stabilize said protein-encapsulated oil particles over a pH range of about pH 2 to about pH 10; and

enzymatically cross-linking said stabilized protein shell to form said protein-encapsulated oil particles.

2. The method of claim 1 wherein said positively charged protein colloid is selected from the group consisting of a gelatin and an agar.

3. The method of claim 2 wherein amount of said gelatin is about 10% by weight.

4. The method of claim 1 wherein said negatively charged colloid is selected from the group consisting of carboxymethylcellulose, sodium hexametaphosphate, gum arabic, and combinations thereof.

5. The method of claim 1 wherein said coarse emulsion particles are about 100 microns to about 2,000 microns.

6. The method of claim 1 wherein said cooling of said complex coacervate is at a rate of about 1.degree. C. per five minutes.

7. The method of claim 1 wherein said complex coacervate is maintained at a temperature in the range of about 5.degree. C. to about 10.degree. C. for a time sufficient to ensure stabilization.

8. The method of claim 1 wherein said enzymatic cross-linking comprises:

adjusting a pH of said complex coacervate to about pH 7; and

adding a transglutaminase to said complex coacervate to cross-link said protein shell of said particles.

9. The method of claim 8 wherein said transglutaminase is selected from the group consisting of naturally occurring, chemically synthesized, and recombinantly produced transglutaminase.

10. The method of claim 8 wherein said transglutaminase is about 1% to about 10% by weight in a carrier.

11. The method of claim 10 wherein said carrier is selected from the group consisting of dextrin, sodium caseinate, and sugar.

12. The product of the method of claim 1 having flavor oil particles encapsulated in a protein shell having a particle size of about 100 microns to about 300 microns and which are fracturable to provide a burst of flavor upon chewing.

13. The method of claim 1 wherein said enzymatic crosslinking is by adding a transglutaminase.

14. The method of claim 1 wherein said enzymatic crosslinking occurs at a pH 7 of said complex coacervate.

15. The method of claim 1 wherein said protein-encapsulated oil particles are thermostable.

16. The method of claim 1 wherein said oil is a flavor oil.

17. A method of microencapsulating oil particles in an enzymatically cross-linked protein shell comprising:

forming an aqueous dispersion of a gelatin and a carboxymethylcellulose;

emulsifying an oil with said gelatin and said carboxymethylcellulose dispersion under agitation to form emulsified oil particles;

diluting said emulsified oil particles at ambient temperature with water to form a complex coacervate of a gelatin shell around each of said oil particles;

cooling said complex coacervate to a gel temperature in the range of about 20.degree. C. to about 27.degree. C. to deposit a protein shell around each of said oil particles and further cooling to a temperature in the range of about 5.degree. C. to 10.degree. C. to stabilize said protein-encapsulated oil particles over a pH range of about pH 2 to pH 10;

cross-linking said gelled gelatin shell at said temperature at a pH of about 7 with transglutaminase to form a microcapsule; and

deactivating said transglutaminase by adjusting to a pH of approximately less than 3 to enhance stability and eliminate gel formation upon storage of said microcapsule.

18. The method of claim 17 wherein said temperature decrease from said ambient temperature to said temperature of about 20.degree. C. to about 27.degree. C. is at a rate of about 1.degree. C. per five minutes.

19. The method of claim 17 wherein said pH is adjusted to approximately less than

3 with citric acid.

20. The method of claim 17 wherein said gelatin and said carboxymethylcellulose are in a one:one-tenth ratio.

21. The product of the method of claim 17 having flavor oil particles encapsulated in a protein shell having a particle size of about 100 microns to about 300 microns and which are fracturable to provide a burst of flavor upon chewing.

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L6: Entry 2 of 4 File: PGPB Dec 13, 2001

PGPUB-DOCUMENT-NUMBER: 20010051154
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20010051154 A1

TITLE: Stabilized protein preparation and process for its preparation

PUBLICATION-DATE: December 13, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Roemisch, Juergen	Marburg		DE	
Stauss, Harald	Dautphetal		DE	
Stoehr, Hans-Arnold	Wetter		DE	

US-CL-CURRENT: 424/130.1; 424/94.3, 514/2

CLAIMS:

We claim:

1. A stabilized protein preparation, which is protected against a loss of activity during pasteurization by the addition of stabilizers which comprise one or more saccharides as a mixture with more than 0.5 mol/l of one or more amino acids chosen from arginine, lysine, histidine, phenylalanine, tryptophan, tyrosine, aspartic acid and its salts, and glutamic acid and its salts, and wherein the stabilized protein preparation contains no antithrombin III.

2. The stabilized protein preparation as claimed in claim 1, wherein the protein is one or more blood clotting factors chosen from FII, FV, FVII and FVIIa, FVIII, FIX, FX, FXII and their combination preparations, the von Willebrand factor (vWF), FVIII/vWF, or one or more proteins chosen from albumins, immunoglobulins, protease inhibitors, .alpha.-2-antiplasmin, .alpha.-1-antitrypsin, protein C, activated protein C, protein S, protein Z, tissue factor pathway inhibitor (TFPI), fibrinogen, fibronectin and plasminogen.

3. The stabilized protein preparation as claimed in claim 1, wherein the saccharide is a monosaccharide, a disaccharide or an oligosaccharide present in an amount of at least 0.5 g/ml.

4. The stabilized protein preparation as claimed in claim 1, wherein the saccharide is a monosaccharide, a disaccharide or an oligosaccharide present in an amount of at least 1.0 g/ml.

5. The stabilized protein preparation as claimed in claim 1, wherein the saccharide is is a monosaccharide, a disaccharide or an oligosaccharide present in an amount of more than 1.5 g/ml.

6. The stabilized protein preparation as claimed in claim 1, wherein the one or more amino acids are present in an amount of more than 0.8 mol/l.

7. The stabilized protein preparation as claimed in claim 1, wherein the preparation further comprises a soluble calcium salt in an amount of at least 0.5 mmol/l.

8. The stabilized protein preparation according to claim 1, wherein the preparation further comprises glycine, glutamine, or glycine and glutamine together.

9. The stabilized protein preparation according to claim 1, wherein the preparation further comprises a soluble calcium salt in an amount of at least 1.0 mmol/l.

10. A process for the viral inactivation or viral depletion of a protein preparation, which comprises subjecting a stabilized protein preparation as claimed in claim 1 to a heat treatment at 40 to 95.degree. C. for a period of 5 to 50 hours.

11. A process for the viral inactivation or viral depletion of a protein preparation, which comprises subjecting a stabilized protein preparation as claimed in claim 1 to viral depletion by means of filtration.

12. A process for the viral inactivation or viral depletion of a protein preparation, which comprises subjecting a stabilized protein preparation as claimed in claim 1 to a viral depletion by means of centrifugation.

13. A process for the viral inactivation or viral depletion of a protein preparation, which comprises subjecting a stabilized protein preparation as claimed in claim 1 to a treatment with detergents or bactericidal or virucidal agents.

14. A stabilized protein preparation, which is protected against loss of activity during pasteurization by the addition of stabilizers which comprise more than 1.5 g/ml of one or more saccharides as a mixture with more than 0.8 mol/l of one or more amino acids chosen from arginine, lysine, histidine, phenylalanine, tryptophan, tyrosine, aspartic acid and its salts, and glutamic acid and its salts, and wherein the stabilized protein preparation contains no antithrombin III.

15. The stabilized protein preparation as claimed in claim 14, wherein the preparation further comprises glycine, glutamine, or glycine and glutamine together.

16. The stabilized protein preparation as claimed in claim 14, wherein the preparation further comprises a soluble calcium salt in an amount of at least 0.5 mmol/l.

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Search Results - Record(s) 1 through 4 of 4 returned.

☐ 1. Document ID: US 20020061549 A1

L6: Entry 1 of 4 File: PGPB May 23, 2002

PGPUB-DOCUMENT-NUMBER: 20020061549
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20020061549 A1

TITLE: Stabilized proteins

PUBLICATION-DATE: May 23, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Marshall, Christopher P.	Brooklyn	NY	US	
Hoffman, Alexander	Los Angeles	CA	US	
Errico, Joseph P.	Far Hills	CA	US	
Marshall, Paul B.	Munich		DE	

US-CL-CURRENT: 435/68.1; 435/198, 530/350, 530/388.1, 530/399

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw Desc | Image

☐ 2. Document ID: US 20010051154 A1

L6: Entry 2 of 4 File: PGPB Dec 13, 2001

PGPUB-DOCUMENT-NUMBER: 20010051154
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20010051154 A1

TITLE: Stabilized protein preparation and process for its preparation

PUBLICATION-DATE: December 13, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Roemisch, Juergen	Marburg		DE	
Stauss, Harald	Dautphetal		DE	
Stoehr, Hans-Arnold	Wetter		DE	

US-CL-CURRENT: 424/130.1; 424/94.3, 514/2

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw Desc | Image

☐ 3. Document ID: US 6534064 B1

L6: Entry 3 of 4 File: USPT Mar 18, 2003

US-PAT-NO: 6534064
DOCUMENT-IDENTIFIER: US 6534064 B1

TITLE: Stabilized protein particles for inducing cellular immune responses

DATE-ISSUED: March 18, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
O'Hagan; Derek	Berkeley	CA		
Singh; Manmohan	Hercules	CA		

US-CL-CURRENT: 424/205.1; 424/199.1, 424/204.1, 424/207.1, 424/208.1, 424/225.1, 424/228.1, 424/229.1, 424/70.14, 424/70.16, 424/9.34, 435/8, 518/726

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw Desc | Image

☐ 4. Document ID: US 4496397 A

L6: Entry 4 of 4 File: USPT Jan 29, 1985

US-PAT-NO: 4496397
DOCUMENT-IDENTIFIER: US 4496397 A

TITLE: Process for purifying and stabilizing catechol-containing proteins and materials obtained thereby

DATE-ISSUED: January 29, 1985

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Waite; J. Herbert	Collinsville	CT		

US-CL-CURRENT: 106/152.1; 530/328, 530/402, 530/406, 530/417, 530/423, 530/857, 930/20

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw Desc | Image

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Terms	Documents
tyrosine and stabilized protein.clm.	4

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Search Results - Record(s) 1 through 10 of 21 returned.

☐ 1. Document ID: US 20030143673 A1

L3: Entry 1 of 21 File: PGPB Jul 31, 2003

PGPUB-DOCUMENT-NUMBER: 20030143673
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20030143673 A1

TITLE: Barnacle adhesion proteins

PUBLICATION-DATE: July 31, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Kaplan, David L.	Concord	MA	US	
Gatenholm, Paul	Kullavik	NH	SE	
Berglin, Karl Mattias	De Geerg	NJ	SE	
Platko, Joseph David	Merrimack	MA	US	
Pepper, Lauren Rebecca	Westfield		US	
Ngangan, Alyssa Vanita	Nahant		US	

US-CL-CURRENT: 435/69.1; 435/320.1, 435/325, 530/388.1, 530/395, 536/23.5

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw Desc | Image

☐ 2. Document ID: US 20030125232 A1

L3: Entry 2 of 21 File: PGPB Jul 3, 2003

PGPUB-DOCUMENT-NUMBER: 20030125232
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20030125232 A1

TITLE: Stabilized proteins with engineered disulfide bonds

PUBLICATION-DATE: July 3, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Griffin, John H.	Del Mar	CA	US	
Gale, Andrew J.	San Diego	CA	US	
Getzoff, Elizabeth D.	San Diego	CA	US	
Pellequer, Jean-Luc	Cedex		FR	

US-CL-CURRENT: 514/1; 435/69.1, 702/19

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw. Desc | Image

☐ 3. Document ID: US 20030113717 A1

L3: Entry 3 of 21 File: PGPB Jun 19, 2003

PGPUB-DOCUMENT-NUMBER: 20030113717
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20030113717 A1

TITLE: Directed evolution of novel binding proteins

PUBLICATION-DATE: June 19, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Ladner, Robert Charles	Ijamsville	MD	US	
Guterman, Sonia Kosow	Belmont	MA	US	
Roberts, Bruce Lindsay	Milford	MA	US	
Markland, William	Milford	MA	US	
Ley, Arthur Charles	Newton	MA	US	
Kent, Rachel Baribault	Boxborough	MA	US	

US-CL-CURRENT: 435/6; 435/455, 435/7.2, 435/91.2

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw. Desc | Image

☐ 4. Document ID: US 20030082187 A1

L3: Entry 4 of 21 File: PGPB May 1, 2003

PGPUB-DOCUMENT-NUMBER: 20030082187
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20030082187 A1

TITLE: Combined cancer treatment methods using antibodies to aminophospholipids

PUBLICATION-DATE: May 1, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Thorpe, Philip E.	Dallas	TX	US	
Ran, Sophia	Dallas	TX	US	

US-CL-CURRENT: 424/155.1

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw. Desc | Image

☐ 5. Document ID: US 20020150881 A1

L3: Entry 5 of 21 File: PGPB Oct 17, 2002

PGPUB-DOCUMENT-NUMBER: 20020150881
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20020150881 A1

TITLE: Directed evolution of novel binding proteins

PUBLICATION-DATE: October 17, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Ladner, Robert Charles	Ijamsville	MD	US	
Guterman, Sonia Kosow	Belmont	MA	US	
Roberts, Bruce Lindsay	Milford	MA	US	
Markland, William	Milford	MA	US	
Ley, Arthur Charles	Newton	MA	US	
Kent, Rachel Baribault	Boxborough	MA	US	

US-CL-CURRENT: 435/5; 435/235.1, 435/6, 435/7.1

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw Desc | Image

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☐ 6. Document ID: US 20020061549 A1

L3: Entry 6 of 21 File: PGPB May 23, 2002

PGPUB-DOCUMENT-NUMBER: 20020061549
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20020061549 A1

TITLE: Stabilized proteins

PUBLICATION-DATE: May 23, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Marshall, Christopher P.	Brooklyn	NY	US	
Hoffman, Alexander	Los Angeles	CA	US	
Errico, Joseph P.	Far Hills	CA	US	
Marshall, Paul B.	Munich		DE	

US-CL-CURRENT: 435/68.1; 435/198, 530/350, 530/388.1, 530/399

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw Desc | Image

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☐ 7. Document ID: US 6406693 B1

L3: Entry 7 of 21 File: USPT Jun 18, 2002

US-PAT-NO: 6406693
DOCUMENT-IDENTIFIER: US 6406693 B1

TITLE: Cancer treatment methods using antibodies to aminophospholipids

DATE-ISSUED: June 18, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Thorpe; Philip E.	Dallas	TX		
Ran; Sophia	Dallas	TX		

US-CL-CURRENT: 424/130.1; 424/132.1, 424/133.1, 424/135.1, 424/138.1, 424/141.1, 424/152.1, 424/184.1, 435/6, 530/387.1

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw Desc
Image

☐ 8. Document ID: US 6325951 B1

L3: Entry 8 of 21 File: USPT Dec 4, 2001

US-PAT-NO: 6325951
DOCUMENT-IDENTIFIER: US 6325951 B1

TITLE: Enzymatically protein-encapsulating oil particles by complex coacervation

DATE-ISSUED: December 4, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Soper; Jon C.	Lebanon	OH		
Thomas; M. Teresa	Centerville	OH		

US-CL-CURRENT: 264/4.3; 264/4.33

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw Desc
Image

☐ 9. Document ID: US 6312694 B1

L3: Entry 9 of 21 File: USPT Nov 6, 2001

US-PAT-NO: 6312694
DOCUMENT-IDENTIFIER: US 6312694 B1
**** See image for Certificate of Correction ****

TITLE: Cancer treatment methods using therapeutic conjugates that bind to aminophospholipids

DATE-ISSUED: November 6, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Thorpe; Philip E.	Dallas	TX		
Ran; Sophia	Dallas	TX		

US-CL-CURRENT: 424/178.1; 424/133.1, 424/134.1, 424/135.1, 424/136.1, 424/137.1, 424/141.1, 424/142.1, 424/143.1, 424/181.1, 424/193.1, 514/12, 530/387.1, 530/388.1

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw. Desc | Image

☐ 10. Document ID: US 6039901 A

L3: Entry 10 of 21 File: USPT Mar 21, 2000

US-PAT-NO: 6039901
DOCUMENT-IDENTIFIER: US 6039901 A

TITLE: Enzymatically protein encapsulating oil particles by complex coacervation

DATE-ISSUED: March 21, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Soper; Jon C.	Lebanon	OH		
Thomas; M. Teresa	Centerville	OH		

US-CL-CURRENT: 264/4.3; 264/4.33, 428/402.2, 428/402.21

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw. Desc | Image

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Terms	Documents
cross-link and stabilized protein	21

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Search Results - Record(s) 11 through 20 of 21 returned.

☐ 11. Document ID: US 5837500 A

L3: Entry 11 of 21 File: USPT Nov 17, 1998

US-PAT-NO: 5837500
DOCUMENT-IDENTIFIER: US 5837500 A

TITLE: Directed evolution of novel binding proteins

DATE-ISSUED: November 17, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Ladner; Robert Charles	Ijamsville	MD		
Gutterman; Sonia Kosow	Belmont	MA		
Roberts; Bruce Lindsay	Milford	MA		
Markland; William	Milford	MA		
Ley; Arthur Charles	Newton	MA		
Kent; Rachel Baribault	Boxborough	MA		

US-CL-CURRENT: 435/69.7; 435/471, 435/91.1, 435/91.2, 530/350, 530/412, 536/23.4

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw. Desc | Image

☐ 12. Document ID: US 5783214 A

L3: Entry 12 of 21 File: USPT Jul 21, 1998

US-PAT-NO: 5783214
DOCUMENT-IDENTIFIER: US 5783214 A

TITLE: Bio-erodible matrix for the controlled release of medicinals

DATE-ISSUED: July 21, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Royer; Garfield P.	Cashtown	PA		

US-CL-CURRENT: 424/499; 424/422, 424/423, 424/425, 424/426, 424/451, 424/457, 424/464, 424/468, 424/484, 424/488, 424/489, 424/490, 424/491, 424/492, 424/493

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw. Desc | Image

☐ 13. Document ID: US 5766897 A

L3: Entry 13 of 21 File: USPT Jun 16, 1998

US-PAT-NO: 5766897
DOCUMENT-IDENTIFIER: US 5766897 A
**** See image for Certificate of Correction ****

TITLE: Cysteine-pegylated proteins

DATE-ISSUED: June 16, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Braxton; Scott M.	San Mateo	CA		

US-CL-CURRENT: 435/463; 435/188, 435/212, 435/219

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw Desc
Image

☐ 14. Document ID: US 5763733 A

L3: Entry 14 of 21 File: USPT Jun 9, 1998

US-PAT-NO: 5763733
DOCUMENT-IDENTIFIER: US 5763733 A
**** See image for Certificate of Correction ****

TITLE: Antigen-binding fusion proteins

DATE-ISSUED: June 9, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Whitlow; Marc	El Sabrante	CA		
Filpula; David	Piscataway	NJ		
Shorr; Robert	Edison	NJ		

US-CL-CURRENT: 530/387.3; 424/133.1, 424/134.1, 530/351, 530/399

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw Desc
Image

☐ 15. Document ID: US 5750177 A

L3: Entry 15 of 21 File: USPT May 12, 1998

US-PAT-NO: 5750177
DOCUMENT-IDENTIFIER: US 5750177 A
**** See image for Certificate of Correction ****

TITLE: Cheese with improved melt properties and methods of producing same

DATE-ISSUED: May 12, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Yee; Jeng-Jung	Green Bay	WI		
Bell; Lawrence I.	Green Bay	WI		
Narasimmon; Raj G.	Green Bay	WI		

US-CL-CURRENT: 426/582; 426/520, 426/583

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw. Desc | Image

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☐ 16. Document ID: US 5571698 A

L3: Entry 16 of 21 File: USPT Nov 5, 1996

US-PAT-NO: 5571698
DOCUMENT-IDENTIFIER: US 5571698 A
**** See image for Certificate of Correction ****

TITLE: Directed evolution of novel binding proteins

DATE-ISSUED: November 5, 1996

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Ladner; Robert C.	Ijamsville	MD		
Guterman; Sonia K.	Belmont	MA		
Roberts; Bruce L.	Milford	MA		
Markland; William	Milford	MA		
Ley; Arthur C.	Newton	MA		
Kent; Rachel B.	Boxborough	MA		

US-CL-CURRENT: 435/69.7; 435/252.3, 435/320.1, 435/477, 435/6, 435/69.1

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw. Desc | Image

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☐ 17. Document ID: US 5258501 A

L3: Entry 17 of 21 File: USPT Nov 2, 1993

US-PAT-NO: 5258501
DOCUMENT-IDENTIFIER: US 5258501 A

TITLE: Stabilization of glycoproteins

DATE-ISSUED: November 2, 1993

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Barbaric; Slobodan	41000 Zagreb			YU
Kozulic; Branko	8046 Zurich			CH

US-CL-CURRENT: 530/395; 435/177, 435/188, 435/190, 435/191, 435/201, 530/391.7, 530/391.9, 530/397

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw Desc | Image

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☐ 18. Document ID: US 5223409 A

L3: Entry 18 of 21 File: USPT Jun 29, 1993

US-PAT-NO: 5223409
DOCUMENT-IDENTIFIER: US 5223409 A

TITLE: Directed evolution of novel binding proteins

DATE-ISSUED: June 29, 1993

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Ladner; Robert C.	Ijamsville	MD		
Guterman; Sonia K.	Belmont	MA		
Roberts; Bruce L.	Milford	MA		
Markland; William	Milford	MA		
Ley; Arthur C.	Newton	MA		
Kent; Rachel B.	Boxborough	MA		

US-CL-CURRENT: 435/69.7; 435/252.3, 435/320.1, 435/472, 435/5, 435/69.1, 530/387.3, 530/387.5

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw Desc | Image

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☐ 19. Document ID: US 4885183 A

L3: Entry 19 of 21 File: USPT Dec 5, 1989

US-PAT-NO: 4885183
DOCUMENT-IDENTIFIER: US 4885183 A
**** See image for Certificate of Correction ****

TITLE: Method for controlling melting properties of process cheese

DATE-ISSUED: December 5, 1989

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Strandholm; John J.	Morton Grove	IL		
Prochnow; Robert R.	Deerfield	IL		
Miller; Mark S.	Arlington Heights	IL		
Woodford; Lawrence E.	Palatine	IL		
Neunaber; Steven M.	Morton Grove	IL		

US-CL-CURRENT: 426/582; 426/583

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Image | KWIC | Draw Desc

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☐ 20. Document ID: US 4832977 A

L3: Entry 20 of 21 File: USPT May 23, 1989

US-PAT-NO: 4832977
DOCUMENT-IDENTIFIER: US 4832977 A
**** See image for Certificate of Correction ****

TITLE: Gravitationally-stabilized peanut-containing composition and process for making same

DATE-ISSUED: May 23, 1989

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Avera; Fitzhugh L.	Alameda	CA		

US-CL-CURRENT: 426/633; 426/658

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Image | KWIC | Draw Desc

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Terms	Documents
cross-link and stabilized protein	21

Display Format: - Change Format

Previous Page Next Page

WEST Search History

DATE: Saturday, August 02, 2003

Set Name side by side	Query	Hit Count	Set Name result set
DB=USPT,PGPB,JPAB,EPAB,DWPI; PLUR=YES; OP=ADJ			
L6	tyrosine and stabilized protein.clm.	4	L6
L5	di-tyrosine and stabilized protein.clm.	1	L5
L4	cross-link and stabilized protein.clm.	4	L4
L3	cross-link and stabilized protein	21	L3
L2	dityrosyl and stabilized protein	1	L2
L1	dityrosyl cross-link and stabilized protein	1	L1

END OF SEARCH HISTORY

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=> file medline caplus biosis biotechds scisearch embase
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                                                       ENTRY    SESSION
FULL ESTIMATED COST                                     0.21       0.21

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=> s (di-tyrosine or dityrosyle or dityrosyl cross-link?) and stabilised protein
L1            0 (DI-TYROSINE OR DITYROSYLE OR DITYROSYL CROSS-LINK?) AND STABILI
                SED PROTEIN

=> s (di-tyrosine or dityrosyle or dityrosyl cross-link?) and stabilized protein
L2            0 (DI-TYROSINE OR DITYROSYLE OR DITYROSYL CROSS-LINK?) AND STABILI
                ZED PROTEIN

=> s (di-tyrosine or dityrosyle or dityrosyl cross-link?) and stabilized
L3            2 (DI-TYROSINE OR DITYROSYLE OR DITYROSYL CROSS-LINK?) AND STABILI
                ZED

=> dup rem l3
PROCESSING COMPLETED FOR L3
L4            2 DUP REM L3 (0 DUPLICATES REMOVED)

=> d l4 1-2 ibib ab

L4   ANSWER 1 OF 2  CAPLUS  COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER:         1993:685034  CAPLUS
DOCUMENT NUMBER:          119:285034
TITLE:                    Ternary metal(II) complexes with tyrosine-containing
                          dipeptides. Structures of copper(II) and palladium(II)
                          complexes involving L-tyrosylglycine and stabilization
                          of copper(II) complexes due to intramolecular aromatic
                          ring stacking
AUTHOR(S):                Sugimori, Tamotsu; Shibakawa, Kimio; Masuda, Hideki;
                          Odani, Akira; Yamauchi, Osamu
CORPORATE SOURCE:         Fac. Sci., Nagoya Univ., Nagoya, 464-01, Japan
SOURCE:                   Inorganic Chemistry (1993), 32(22), 4951-9
                          CODEN: INOCAJ; ISSN: 0020-1669
DOCUMENT TYPE:            Journal
LANGUAGE:                 English
AB   The structures and stabilities of metal(II) complexes of tyrosine-(tyr-)
     contg. dipeptides (L), L-tyr-X [X = glycine (gly), L-/D- alanine (ala),
     -tyr, -tryptophan (trp), and -phenylalanine (phe)] and diamines [DA =
     ethylenediamine, 2,2'-bipyridine (bpy), and 1,10-phenanthroline (phen)]
     were studied by crystallog., spectroscopic, and potentiometric methods.
     The absorption spectra of the 1:1:1 Cu(DA)(L) systems exhibited a single
     d-d peak at 610-640 nm (pH 6-7) and at 620-640 nm (pH .apprx.9) with an
     addnl. peak at .apprx.850 nm indicating the formation of a 5-coordinate
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complex. The CD spectra showed magnitude anomaly resulting from conformational changes. The stability consts. .beta.pqrs of the ternary complexes Cup(DA)q(L)rHs were detd. by potentiometric titrns. at 25.degree. and I = 0.1M (KNO3). The complexes with DA = bpy or phen are **stabilized** relative to Cu(en)(glycylglycine) by the stacking interaction between the side-chain arom. ring of L and DA. Two complexes with L = L-tyr-gly, [Pd(bpy)(L-tyr-gly)].3H2O (1) and [Cu(phen)(L-tyr-gly)].3H2O (2), were isolated as crystals, and the structures were detd. by the x-ray diffraction method. 1 Crystallizes in the triclinic space group, P1, with 1 mol. with a 10.856(2), b 8.114(1), c 7.704(1) .ANG.; .alpha. 81.58(1); .beta. 112.89(1); and .gamma. 117.48(1).degree.. The Pd(II) ion is in a 4-coordinate square-planar geometry with the 2 nitrogens of bpy and 2 nitrogens of L-tyr-gly. The phenol ring of L-tyr.gly is situated above the coordination plane and stacked with bpy with the av. spacing of 3.28 .ANG.. 2 Crystallizes in the orthorhombic space group, P212121, with 4 mols. with a 10.765(2), b 22.074(3), and c 10.078(2) .ANG.. The Cu(II) ion has a 5-coordinate square-pyramidal geometry; the 2 nitrogens and 1 O of L-tyr-gly and 1 of the 2 nitrogens of phen occupy the equatorial positions in a slightly distorted square plane, and the other N of phen is coordinated at an axial position. Intramol. arom. ring stacking was detected between the phenol ring of L-tyr-gly and the arom. ring of phen perpendicular to the Cu(II) coordination plane, the av. spacing between the rings being 3.61 .ANG.. The results confirm the stabilization of Cu(DA)(L) (DA = bpy or phen) evaluated from log .beta.pqrs values and suggest that the conformation of side chain arom. rings and coordination structures can be regulated by intramol. stacking.

L4 ANSWER 2 OF 2 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN
ACCESSION NUMBER: 1983:215255 BIOSIS
DOCUMENT NUMBER: BA75:65255
TITLE: ASSEMBLY OF THE FERTILIZATION MEMBRANE OF THE SEA-URCHIN STRONGYLOCENTROTUS-PURPURATUS ISOLATION OF A DIVALENT CATION DEPENDENT INTERMEDIATE AND ITS CROSS LINKING IN-VITRO.
AUTHOR(S): KAY E; EDDY E M; SHAPIRO B M
CORPORATE SOURCE: DEP. BIOCHEM. UNIV. WASHINGTON SEATTLE, WASH. 98195.
SOURCE: CELL, (1982) 29 (3), 867-876.
CODEN: CELLB5. ISSN: 0092-8674.
FILE SEGMENT: BA; OLD
LANGUAGE: English
AB To analyze the mechanism of assembly of the fertilization membrane of the sea urchin S. purpuratus, the ovoperoxidase that catalyzes dityrosine formation was inhibited to isolate an uncrosslinked, soft fertilization membrane (SFM). The SFM intermediates were **stabilized** by divalent cation-dependent interactions: In the absence of divalent cations, the SFM became amorphous and less refractile and released proteins into the surrounding medium. The remaining structures were termed wraiths. The rate of this disaggregation was increased in solutions of low ionic strength, but 5-10 mM divalent cations (Ca2+, Mg2+, Mn2+ or Ba2+) prevented disaggregation. Wraiths could be reassembled into structures that resembled SFM by readdition of divalent cations. The SFM contained active ovoperoxidase and could be hardened in vitro by washing away the ovoperoxidase inhibitor and adding H2O2. After hardening, certain proteins of over 100 kd [kilodaltons] were excluded from SDS[sodium dodecyl sulfate]-polyacrylamide gels, suggesting that these proteins contain the substrates for crosslinking. The SFM may be a divalent cation-dependent intermediate on the pathway of fertilization membrane assembly containing tyrosyl residues that are appropriately juxtaposed for crosslinking.

=> s (di-tyrosine or dityrosyle or dityrosyl cross-link?) and (peptide or protein or polype
L5 59 (DI-TYROSINE OR DITYROSYLE OR DITYROSYL CROSS-LINK?) AND (PEPTID
E OR PROTEIN OR POLYPEPTIDE)

=> dup rem l5

PROCESSING COMPLETED FOR L5
L6 38 DUP REM L5 (21 DUPLICATES REMOVED)

=> focus l6
PROCESSING COMPLETED FOR L6
L7 38 FOCUS L6 1-

=> d l7 1-10 ibib ab

L7 ANSWER 1 OF 38 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1989:529258 CAPLUS
DOCUMENT NUMBER: 111:129258
TITLE: Influence of neurophysin residues 1-8 on the optical activity of neurophysin-**peptide** complexes. Direct evidence that the 1-8 sequence alters the environment of bound **peptide**
AUTHOR(S): Breslow, Esther; Co, Rochester T.; Hanna, Paul; Laborde, Thirleen
CORPORATE SOURCE: Med. Coll., Cornell Univ., New York, NY, 10021, USA
SOURCE: International Journal of Peptide & Protein Research (1989), 34(1), 21-7
CODEN: IJPPC3; ISSN: 0367-8377
DOCUMENT TYPE: Journal
LANGUAGE: English
AB CD was used to compare the environment of peptides bound to native and des 1-8 neurophysin to elucidate the role of the neurophysin 1-8 sequence in **peptide**-binding. A very large pos. ellipticity (.apprx.6000 deg cm2 dmol-1), shown earlier to be induced in tyrosine (Tyr) at position 2 of peptides bound to the native **protein**, was paralleled by similar included changes in Tyr at **peptide** position 1. Deletion of the neurophysin 1-8 sequence led to loss of half of the induced optical activity at **peptide** positions 1 and 2 and changes in binding-induced optical activity in the **protein**, the latter partially assignable to **protein** disulfides. In the mononitrated native and des 1-8 proteins, the optical activity of neurophysin Tyr-49, a residue at the **peptide**-binding site, was reduced by 80% in complexes of the des 1-8 **protein** relative to those of the native **protein**. Thus, neurophysin arginine-8 may modulate the optical activity at the binding site by directly placing a charge proximal to the binding site and/or by altering binding site conformation. The environment of bound **peptide** between the native and des 1-8 proteins differs.

L7 ANSWER 2 OF 38 MEDLINE on STN
ACCESSION NUMBER: 2001136490 MEDLINE
DOCUMENT NUMBER: 20547254 PubMed ID: 11097467
TITLE: Relationships between the copper and iron systems in hemodialysis patients and variables affecting these systems.
AUTHOR: Kirschbaum B
CORPORATE SOURCE: Division of Nephrology, Medical College of Virginia, Virginia Commonwealth University, Richmond 23298, USA.
SOURCE: BIOLOGICAL TRACE ELEMENT RESEARCH, (2000 Oct) 77 (1) 13-24. Journal code: 7911509. ISSN: 0163-4984.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200103
ENTRY DATE: Entered STN: 20010404
Last Updated on STN: 20010404
Entered Medline: 20010301
AB The copper-binding **protein** ceruloplasmin oxidizes ferrous iron to ferric iron, an action that is critical for the binding of iron to transferrin in plasma. Ceruloplasmin, in common with ferritin and

transferrin, is an acute-phase **protein** that is altered by inflammation. We sought to identify interrelationships between the copper and iron systems by measuring copper, ceruloplasmin, ferroxidase, ferritin, transferrin, iron, and iron-binding capacity in a group of hemodialysis patients. We looked for evidence of inflammation and free-radical injury by assaying for **protein** carbonyl groups, **protein** pyrrolation, **di-tyrosine**, and advanced oxidation **protein** products. Our findings were compatible with an active inflammatory state that affected both iron and copper metabolism. Transferrin levels were low, whereas ceruloplasmin levels were elevated compared to normal. Copper concentration was increased proportional to ceruloplasmin. Several variables including ceruloplasmin and transferrin were observed to correlate significantly with the level of pyrrolated **protein**. The data suggest that posttranslational modification of circulating proteins may affect their structural, enzymatic, and ligand-binding properties. Abnormalities in copper metabolism and their influence on iron handling in renal failure are complex and will require additional study before their importance can be defined.

L7 ANSWER 3 OF 38 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1978:615745 CAPLUS
DOCUMENT NUMBER: 89:215745
TITLE: Aromatic side-chain contributions to the far ultraviolet circular dichroism of peptides and proteins
AUTHOR(S): Woody, Robert W.
CORPORATE SOURCE: Dep. Biochem., Colorado State Univ., Fort Collins, CO, USA
SOURCE: Biopolymers (1978), 17(6), 1451-67
CODEN: BIPMAA; ISSN: 0006-3525
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The rotational strength of the La transition in phenylalanine and tyrosine side chains was calcd. for dipeptides with various backbone and side-chain conformations and for tripeptides in the .beta.-turn conformation with arom. residues at the corners of the turn. The interaction of the arom. ring with neighboring peptides generates rotational strengths in the La transition of the order of 0.1 Debye-.mu.B. When the preferred backbone and side-chain conformations are considered, the most probable conformations have pos. La bands. Consequently, the N-acyl amino acid amides of L-Tyr and L-Phe have pos. La bands. Calcns. on proteins of known conformation at the nearest-neighbor level confirm the tendency toward pos. La contributions for Phe and Tyr residues. This contribution can be of the order of 10% of the obsd. CD even in proteins with rather strong amide contributions. In the gene 5 **protein** from bacteriophage fd and many snake-venom toxins, side-chain contributions from Tyr and Trp residues manifest themselves as pos. CD bands in the 225-250-nm region. The magnitude of the nearest-neighbor contributions and the trend toward pos. contributions are consistent with such CD bands in globular proteins.

L7 ANSWER 4 OF 38 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1995:15374 CAPLUS
DOCUMENT NUMBER: 122:154878
TITLE: Kinetic characterization of carboxypeptidase-Y-catalyzed **peptide** semisynthesis Prediction of yields
AUTHOR(S): Christensen, U.
CORPORATE SOURCE: Dep. Chem., Univ. Copenhagen, Copenhagen, Den.
SOURCE: Amino Acids (1994), 6(2), 177-87
CODEN: AACIE6; ISSN: 0939-4451
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Carboxypeptidase-Y-catalyzed **peptide** semisynthesis has been

characterized at pH 7.5, 25.degree. C from initial rate steady state kinetic and progress reaction studies of hydrolysis and aminolysis of .alpha.-N-benzoyl-L-tyrosine 4-nitroanilide using the natural L-amino acids and their amides as nucleophiles. The reaction mechanism previously shown to account for carboxypeptidase-Y-catalyzed aminolysis reactions (Christensen et al., 1992) was found also to account for all of the reactions studied here. It involves in addn. to the classical serine proteinase mechanism: (i) complex formation between the free enzyme and the nucleophile, an interaction characterized by the competitive inhibition const., Ki, and (ii) reaction of the nucleophile with the acylated enzyme forming a complex of enzyme and aminolysis product, characterized by the aminolysis kinetic parameter, K'N. A competitive inhibitory effect showing binding to the free enzyme is seen mainly with large hydrophobic amino acids and their amides, i.e., the same residues as those preferred on either side of the scissile bond in carboxypeptidase-Y substrates. The stoichiometry of the inhibition is 1:1 and the actual binding position most likely is that of the leaving group of substrates, S'1. Aminolysis effects are obtained with a wide range of amino acids and amino acid amides; exceptions are Pro and, probably due to their low soly., Tyr, Trp, Asp and Glu. The K'N-values show relatively little dependence on the chem. nature of the side groups, but a marked difference between the amino acid and its amide. The amides interact more strongly. The kinetic parameter, kc/Km, of the hydrolysis of the aminolysis products is another important factor in **peptide** semisynthesis. The kc/Km-values obtained on the amidated aminolysis products are much less than those of the products formed with free amino acids. All in all this leads to rather efficient aminolysis with the L-amino acid amides and poor aminolysis with the L-amino acids.

L7 ANSWER 5 OF 38 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1995:240271 CAPLUS
DOCUMENT NUMBER: 122:50640
TITLE: Molecular dynamics simulation of the rare amino acid LL-dityrosine and a dityrosine-containing **peptide**: comparison with time-resolved fluorescence
AUTHOR(S): Kungl, A. J.; Breitenbach, M.; Kauffmann, H. F.
CORPORATE SOURCE: Institut fuer Physikalische Chemie, Universitaet Wien, Vienna, A-1090, Austria
SOURCE: Biochimica et Biophysica Acta (1994), 1201(3), 345-52
CODEN: BBACAQ; ISSN: 0006-3002
PUBLISHER: Elsevier
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The fluorescence of the rare amino acid LL-dityrosine, which is found in insol. biol. materials with structural features, was recently shown to decay non-exponentially (Kungl et al. (1992) J. Fluorescence 2, 63-74). Here we investigated the time-resolved fluorescence of a dityrosine-contg. **peptide** (DCP) to study the influence of side chains on the fluorescence decay of the chromophore. The fluorescence decay of DCP was best fitted by three exponential terms including a sub-nanosecond rise term, the values of which are quite similar to the parameters obtained for the decay of free dityrosine. They were found to depend on the pH of the aq. soln. but not on the temp. Anal. by an exponential series method revealed broad fluorescence lifetime distributions for DCP. Compared to the corresponding anal. of dityrosine transients, similar lifetime centers were found whereas the widths of the distributions were found broader for DCP. Mol. dynamics (MD) simulations of dityrosine at 300 K show that .chi.1 and .chi.2 side chain conformers (rotamers) of both tyrosine subunits interconvert on a picosecond timescale. The rates of interconversion were shown to depend critically upon the MD technique applied: in vacuo simulations yielded lower interconversion rates compared to stochastic dynamics (SD) and full MD (water explicitly included). However, MD simulations of the dityrosine-contg. **peptide** revealed no interconversions of the .chi.1 and .chi.2 side chain rotamers

of both tyrosine subunits within a 400 ps trajectory. Interconversions could be induced by raising the temp. of the system (DCP plus solvent) to 340 K. Side chain rotamers of dityrosine are not stable on a fluorescence time scale but are stable when a dityrosine-contg. **peptide** is regarded. Nevertheless both mols. yield similar fluorescence decay patterns. We therefore conclude that the rotamer model proposed for the fluorescence decay of tyrosine and tryptophan cannot be applied to the fluorescence decay of dityrosine and peptides contg. this chromophore. This should be of future interest when dityrosine is used as an intrinsic sensor to study complex dityrosine-contg. macromols. by fluorescence spectroscopy.

L7 ANSWER 6 OF 38 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1985:560856 CAPLUS
DOCUMENT NUMBER: 103:160856
TITLE: Cleavage of amine terminal tyrosyl-**peptide** bonds using hypervalent iodine
AUTHOR(S): Moriarty, Robert M.; Sultana, Mumtaz; Ku, Yi Yin
CORPORATE SOURCE: Dep. Chem., Univ. Illinois, Chicago, IL, 60680, USA
SOURCE: Journal of the Chemical Society, Chemical Communications (1985), (14), 974-5
CODEN: JCCCAT; ISSN: 0022-4936
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 103:160856
AB The terminal NH2 group in tyrosine dipeptides was cleaved by treatment with PhI(OAc)2-KOH-MeOH at 0-5.degree. to give 4-MeOCH2C6H4OH (I). The reaction mechanism is discussed in terms of ligand exchange between the phenolic OH and PhI(OMe)2 formed in situ, followed by reductive elimination of PhI with NH2 as the electron source.

L7 ANSWER 7 OF 38 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1985:557800 CAPLUS
DOCUMENT NUMBER: 103:157800
TITLE: The eggshell of Drosophila melanogaster III. Covalent crosslinking of the chorion proteins involves endogenous hydrogen peroxide
AUTHOR(S): Margaritis, Lukas H.
CORPORATE SOURCE: Dep. Biol., Univ. Athens, Athens, 157.01, Greece
SOURCE: Tissue & Cell (1985), 17(4), 553-9
CODEN: TICEBI; ISSN: 0040-8166
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Two cytochem. methods, namely, diaminobenzidine for the assay of peroxidases and CeCl3 for the localization of H2O2 showed that eggshell peroxidase exists in 2 of the 5 eggshell layers of D. melanogaster: the innermost chorionic layer and the endochorion. In addn., H2O2 which acts as a substrate for the enzyme in vitro enabling the formation of covalent bonding between the eggshell proteins, was produced at the follicle cell plasma membrane during the last stage of oogenesis. Thus, H2O2 is an endogenous, programmed product of the follicle cells, responsible for the action of peroxidase to oxidize the tyrosyl residues producing **di-tyrosine** and tri-tyrosine bonds between the chorion polypeptides.

L7 ANSWER 8 OF 38 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN
ACCESSION NUMBER: 1975:195876 BIOSIS
DOCUMENT NUMBER: BA60:25872
TITLE: OCCURRENCE OF **DI TYROSINE** IN CUTICLIN A STRUCTURAL **PROTEIN** FROM ASCARIS CUTICLE.
AUTHOR(S): FUJIMOTO D
SOURCE: COMP BIOCHEM PHYSIOL B COMP BIOCHEM, (1975) 51 (2), 205-208.
CODEN: CBPBB8. ISSN: 0305-0491.
FILE SEGMENT: BA; OLD

LANGUAGE: Unavailable

L7 ANSWER 9 OF 38 MEDLINE on STN
ACCESSION NUMBER: 1998285565 MEDLINE
DOCUMENT NUMBER: 98285565 PubMed ID: 9622489
TITLE: Flexibility involving the intermolecular **dityrosyl cross-links** of enzymatically polymerized calmodulin.
AUTHOR: Helms M K; Malencik D A; Anderson S R
CORPORATE SOURCE: Department of Biochemistry and Biophysics, University of Hawaii, Honolulu 96822, USA.
CONTRACT NUMBER: DK13912 (NIDDK)
RR03155 (NCRR)
SOURCE: BIOCHEMISTRY, (1998 Jun 9) 37 (23) 8378-84.
Journal code: 0370623. ISSN: 0006-2960.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199806
ENTRY DATE: Entered STN: 19980713
Last Updated on STN: 19990129
Entered Medline: 19980630

AB The role of dityrosine as a fluorescent crossbridge between adjacent calmodulin molecules within the high molecular mass polymers that are generated by Arthromyces peroxidase-catalyzed cross-linking [Malencik, D. A., and Anderson, S. R. (1996) Biochemistry 35, 4375] has been examined in frequency domain fluorescence anisotropy studies. Measurements on a polymer fraction possessing a range of molecular masses > 96 000 in NaDodSO4 polyacrylamide gel electrophoresis demonstrate predominating fast local rotations involving the dityrosyl moieties. Normal distribution analyses of the results show peak rotational correlation times of 0.6 ns (zero Ca2+) and 1.2 ns (+Ca2+), values that are smaller than the principal correlation times determined for the global rotation of the free calmodulin monomer in either the presence or absence of Ca2+. The intermolecularly cross-linked segments of the polymers retain a degree of the mobility that is characteristic of the tyrosine-containing sequences of native calmodulin. The half-widths of the normal distribution curves range from 13 ns (zero Ca2+) to approximately 90 ns (5 mM Ca2+), thus encompassing varying rates of segmental motion within the polymers. When Ca2+ is present, possible contributions from the global rotations of polymer molecules are detected near the operating limits of the method. Experiments with the intramolecularly cross-linked calmodulin monomer give global rotational correlation times of 7.9 ns (zero Ca2+) and 11.4 ns (+Ca2+), which compare to values of 7.2 ns and 9.9 ns found previously in time domain measurements [Small, E. W., and Anderson, S. R. (1988) Biochemistry 27, 419]. Rotations of apparent phi2 = 0.2 to 0.3 ns also are detected, accounting for 31% (-Ca2+) to 23% (+Ca2+) of the anisotropy.

L7 ANSWER 10 OF 38 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN
ACCESSION NUMBER: 1980:236467 BIOSIS
DOCUMENT NUMBER: BA70:28963
TITLE: PEROXIDASE CATALYZED FORMATION OF **DI TYROSINE** A **PROTEIN** CROSS LINK IN HUMAN PERIODONTAL LIGAMENT COLLAGEN.
AUTHOR(S): TENOVUO J; PAUNIO K
CORPORATE SOURCE: DEP. ORAL BIOCHEM., INST. DENT., UNIV. TURKU, SF-20520 TURKU 52, FINL.
SOURCE: ARCH ORAL BIOL, (1979 (RECD 1980)) 24 (8), 591-594.
CODEN: AOBIAR. ISSN: 0003-9969.
FILE SEGMENT: BA; OLD
LANGUAGE: English

AB Fluorometric and spectrophotometric analysis were used to investigate the formation of dityrosine in human periodontal ligament collagen, bovine Achilles tendon collagen, pepsin, trypsin and .alpha.-amylase after

enzymic oxidation by lactoperoxidase in vitro. Formation was highest in pepsin and occurred in purified human periodontal ligament collagen, but was not formed in .alpha.-amylase. Physiological salivary and gingival crevicular concentrations of thiocyanate and iodide ions as well as a lathyrogen (.beta.-aminopropionitrile) inhibited dityrosine formation in vitro. The possibility of dityrosine cross-linking in human oral proteins is limited owing to the presence of SCN- and I- ions, but in species (e.g., macaque monkeys) with low salivary concentrations of inhibitory ions cross-linkage of proteins by this mechanism may occur.

=> d l7 11-38 ibib ab

L7 ANSWER 11 OF 38 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN
ACCESSION NUMBER: 1972:227822 BIOSIS
DOCUMENT NUMBER: BA54:57816
TITLE: AN INSOLUBLE **DI TYROSINE** CONTAINING **PROTEIN** FROM UTERUS.
AUTHOR(S): DOWNIE J W; LABELLA F S; WEST M
SOURCE: BIOCHIM BIOPHYS ACTA, (1972) 263 (3), 604-609. CODEN: BBACAQ. ISSN: 0006-3002.
FILE SEGMENT: BA; OLD
LANGUAGE: Unavailable

L7 ANSWER 12 OF 38 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN
ACCESSION NUMBER: 1980:32179 BIOSIS
DOCUMENT NUMBER: BR18:32179
TITLE: DETERMINATION OF TRACE AMOUNTS OF **DI TYROSINE** IN **PROTEIN** HYDROLYSATES BY MEANS OF AN AUTOMATIC AMINO-ACID ANALYZER WITH SPECTRO FLUOROMETRIC EVALUATION.
AUTHOR(S): MALANIK V; LEDVINA M
CORPORATE SOURCE: RES. INST. BIOFACTORS, 281 61 KOURIM, CZECH.
SOURCE: J. Chromatogr., (1979) 170 (1), 254-258. CODEN: JOCRAM. ISSN: 0021-9673.
FILE SEGMENT: BR; OLD
LANGUAGE: English

L7 ANSWER 13 OF 38 MEDLINE on STN
ACCESSION NUMBER: 2003297409 IN-PROCESS
DOCUMENT NUMBER: 22709234 PubMed ID: 12824502
TITLE: Structural analysis of UBL5, a novel ubiquitin-like modifier.
AUTHOR: McNally Teresa; Huang Qiulong; Janis Richard S; Liu Zhihong; Olejniczak Edward T; Reilly Regina M
CORPORATE SOURCE: Global Pharmaceutical Research and Discovery, Abbott Laboratories, 100 Abbott Park Road, Abbott Park, IL 60064-6100, USA.
SOURCE: PROTEIN SCIENCE, (2003 Jul) 12 (7) 1562-6. Journal code: 9211750. ISSN: 0961-8368.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: IN-PROCESS; NONINDEXED; Priority Journals
ENTRY DATE: Entered STN: 20030626
Last Updated on STN: 20030717

AB UBL5 is a widely expressed human **protein** that is strongly conserved across phylogeny. Orthologs of UBL5 occur in every eukaryotic genome characterized to date. The yeast ortholog of UBL5, HUB1, was reported to be a ubiquitin-like **protein** modifier important for modulation of **protein** function. However, unlike ubiquitin and all other ubiquitin-like modifiers, UBL5 and its yeast ortholog HUB1 both contain a C-terminal **di-tyrosine** motif followed by a single variable residue instead of the characteristic di-glycine found in all other ubiquitin-like modifiers. Here we describe the

three-dimensional structure of UBL5 determined by NMR. The overall structure of the **protein** was found to be very similar to ubiquitin despite the low approximately 25% residue similarity. The signature C-terminal **di-tyrosine** residues in UBL5 are involved in the final beta sheet of the **protein**. This is very different to the di-glycine motif found in ubiquitin, which extends beyond the final beta sheet. In addition, we have confirmed an earlier report of an interaction between UBL5 and the cyclin-like kinase, CLK4, which we have determined is specific and does not extend to other cyclin-like kinase family members.

L7 ANSWER 14 OF 38 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN
ACCESSION NUMBER: 1973:207641 BIOSIS
DOCUMENT NUMBER: BA56:37606
TITLE: CHEMICAL NATURE OF MONOGENEAN SCLERITES PART 1 STABILIZATION OF CLAMP **PROTEIN** BY FORMATION OF **DI TYROSINE**.
AUTHOR(S): RAMALINGAM K
SOURCE: PARASITOLOGY, (1973) 66 (1), 1-7.
CODEN: PARAAE. ISSN: 0031-1820.
FILE SEGMENT: BA; OLD
LANGUAGE: Unavailable

L7 ANSWER 15 OF 38 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1983:48925 CAPLUS
DOCUMENT NUMBER: 98:48925
TITLE: CD and proton NMR studies on the side-chain conformation of tyrosine derivatives and tyrosine residues in di- and tripeptides
AUTHOR(S): Juy, Michel; Lam Thanh Hung; Fermandjian, Serge
CORPORATE SOURCE: Dep. Biol., Cent. Nucl. Stud., Gif-sur-Yvette, 91191, Fr.
SOURCE: International Journal of Peptide & Protein Research (1982), 20(4), 298-307
CODEN: IJPPC3; ISSN: 0367-8377
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Tyrosine and tyrosine peptides and derivs. (11 in all) were selected as models for the study of optical properties (1Lb band of phenolic group) and the side-chain arrangement (rotamers around C.alpha.-C.beta. bond) of tyrosine as a function of chem. structure and pH effects. CD in the range 240-320 nm and NMR spectra were recorded for the different ionization states. The results are discussed in terms of charge effects from N- and C-terminal groups and local conformation influence on the 1Lb band of the phenolic chromophore and on the distribution of rotamer populations in the side-chain of tyrosine. Fractions of rotamer populations were estd. from .alpha.-.beta. proton-proton coupling consts. and, in the case of tyrosine and N-acetyltyrosine, from 15N-.beta. N-proton coupling consts., which allow the stereospecific assignment of the .beta. and .beta.' protons. The rotamer populations of tyrosine, averaged from all the data of the samples in soln., were then compared with their statistical distribution in the solid state. Agreement was excellent when referred to crystals of tyrosine, tyrosine derivs., or small peptides (31 samples) but poor in the case of proteins. The validity of using statistical distributions of rotamers in proteins as ref. for rotamer preferences inside small peptides in soln. and the choice of the appropriate Jg and Jt values in Pachler's approach are discussed. The possible existence of a correlation between ellipticity and rotamer populations for such samples is examd.

L7 ANSWER 16 OF 38 MEDLINE on STN
ACCESSION NUMBER: 2001305474 MEDLINE
DOCUMENT NUMBER: 21147895 PubMed ID: 11249935
TITLE: Total urine antioxidant capacity.
AUTHOR: Kirschbaum B
CORPORATE SOURCE: Division of Nephrology, Department of Medicine, Medical

College of Virginia, Virginia Commonwealth University, Richmond, VA 23298, USA.. bkirschb@hsc.vcu.edu
SOURCE: CLINICA CHIMICA ACTA, (2001 Mar) 305 (1-2) 167-73. Journal code: 1302422. ISSN: 0009-8981.
PUB. COUNTRY: Netherlands
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200105
ENTRY DATE: Entered STN: 20010604
Last Updated on STN: 20010604
Entered Medline: 20010531

AB Total antioxidant capacity has been determined for several body fluids and provides a convenient means to compare antioxidant defenses among patients with acute or chronic inflammatory illnesses. We have studied urine specimens from a control group and a variety of patients with hypertension and acute and chronic renal diseases using an ABTS antioxidant assay as described for blood. Other urine assays included fluorescence markers for advanced glycosylation end products (AGE) and **di-tyrosine** (di-tyr), **protein**, uric acid, and creatinine concentrations. Urine antioxidant activity was standardized against ascorbic acid. We found that both the lag time and the area under the curve (AUC) in the ABTS assay were highly correlated with one another and correlated with the **protein** and uric acid concentrations, except for those specimens collected from patients with acute renal failure (ARF). The lack of correlation in the ARF group was not associated with significant differences in lag time or AUC. Correlations were seen also between antioxidant parameters and fluorescence for AGE and di-tyr. The results indicate that the predominant antioxidants in the urine of patients with acute renal failure differ from those found in the urine of individuals with hypertension and chronic nephropathies. The ABTS assay provides a convenient marker for the antioxidant content of urine.

L7 ANSWER 17 OF 38 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN
ACCESSION NUMBER: 1982:300038 BIOSIS
DOCUMENT NUMBER: BA74:72518
TITLE: OZONE INDUCED FORMATION OF O O' **DI TYROSINE** CROSS LINKS IN PROTEINS.
AUTHOR(S): VERWEIJ H; CHRISTIANSE K; VAN STEVENINCK J
CORPORATE SOURCE: SYLVIUS LAB., DEP. MED. BIOCHEMISTRY, WASSENAARSEWEG 72, 2333 AL LEIDEN.
SOURCE: BIOCHIM BIOPHYS ACTA, (1982) 701 (2), 180-184. CODEN: BBACAQ. ISSN: 0006-3002.
FILE SEGMENT: BA; OLD
LANGUAGE: English

AB Treatment of human blood spectrin, insulin, glucagon and ribonuclease with O3 resulted in covalent cross-linking of these proteins. This cross-linking was not reversed by treatment with dithiothreitol and could not be ascribed to -S-S bond formation. A concomitant O,O'-dityrosine formation was observed by spectrofluorometric analysis of the **protein** and by amino acid analysis and TLC of hydrolyzed **protein** samples. The **protein** cross-linking should be attributed to interpeptide O,O'-dityrosine bonds. Oxidation of proteins with horseradish peroxidase and H2O2 also led to O,O'-dityrosine formation. Peroxidase-induced O,O'-dityrosine formation in galactose oxidase (D-galactose:oxygen 6-oxidoreductase, EC 1.1.3.9) caused a strong increase of enzyme activity. O3 treatment of galactose oxidase also led to O,O'-dityrosine formation with a concomitant 8-fold increase of enzyme activity.

L7 ANSWER 18 OF 38 MEDLINE on STN
ACCESSION NUMBER: 2003079547 MEDLINE
DOCUMENT NUMBER: 22478836 PubMed ID: 12456264
TITLE: Detection of HOCl-mediated **protein** oxidation products in the extracellular matrix of human

atherosclerotic plaques.
AUTHOR: Woods Alan A; Linton Stuart M; Davies Michael J
CORPORATE SOURCE: The Heart Research Institute, 145 Missenden Road, Camperdown, Sydney, New South Wales 2050, Australia.
SOURCE: BIOCHEMICAL JOURNAL, (2003 Mar 1) 370 (Pt 2) 729-35. Journal code: 2984726R. ISSN: 0264-6021.
PUB. COUNTRY: England: United Kingdom
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200304
ENTRY DATE: Entered STN: 20030221
Last Updated on STN: 20030403
Entered Medline: 20030402

AB Oxidation is believed to play a role in atherosclerosis. Oxidized lipids, sterols and proteins have been detected in early, intermediate and advanced human lesions at elevated levels. The spectrum of oxidized side-chain products detected on proteins from homogenates of advanced human lesions has been interpreted in terms of the occurrence of two oxidative mechanisms, one involving oxygen-derived radicals catalysed by trace transition metal ions, and a second involving chlorinating species (HOCl or Cl(2)), generated by the haem enzyme myeloperoxidase (MPO). As MPO is released extracellularly by activated monocytes (and possibly macrophages) and is a highly basic **protein**, it would be expected to associate with polyanions such as the glycosaminoglycans of the extracellular matrix, and might result in damage being localized at such sites. In this study proteins extracted from extracellular matrix material obtained from advanced human atherosclerotic lesions are shown to contain elevated levels of oxidized amino acids [3,4-dihydroxyphenylalanine (DOPA), **di-tyrosine**, 2-hydroxyphenylalanine (o-Tyr)] when compared with healthy (human and pig) arterial tissue. These matrix-derived materials account for 83-96% of the total oxidized **protein** side-chain products detected in these plaques. Oxidation of matrix components extracted from healthy artery tissue, and model proteins, with reagent HOCl is shown to give rise to a similar pattern of products to those detected in advanced human lesions. The detection of elevated levels of DOPA and o-Tyr, which have been previously attributed to the occurrence of oxygen-radical-mediated reactions, by HOCl treatment, suggests an alternative route to the formation of these materials in plaques. This is believed to involve the formation and subsequent decomposition of **protein** chloramines.

L7 ANSWER 19 OF 38 MEDLINE on STN
ACCESSION NUMBER: 95047088 MEDLINE
DOCUMENT NUMBER: 95047088 PubMed ID: 7958623
TITLE: Racemization and oxidation studies of hair **protein** in the Homo tirolensis.
AUTHOR: Lubec G; Weninger M; Anderson S R
CORPORATE SOURCE: Department of Pediatrics, University of Vienna, Austria.
SOURCE: FASEB JOURNAL, (1994 Nov) 8 (14) 1166-9. Journal code: 8804484. ISSN: 0892-6638.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199412
ENTRY DATE: Entered STN: 19950110
Last Updated on STN: 19950110
Entered Medline: 19941215

AB Amino acids contained in fossil materials show an increasing extent of racemization with age, postulating time and temperature as the two major variables. The recent discovery of the Homo tirolensis made possible a comparison between racemization rates of the amino acids found in hair at identical ages (5200 years of age) but at different diagenetic temperatures ("Ginger," found in the hot, dry sand of Egypt; H.

tirolensis, found on a glacier of the Otztaler Alps). The rate of racemization was higher in the H. tirolensis, which is surprising and in contrast to current concepts. Ortho-tyrosine and **di-tyrosine**, parameters for OH-radical attack, were also higher in the H. tirolensis, suggesting a role for free OH-radical involvement in the racemization process.

L7 ANSWER 20 OF 38 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN
ACCESSION NUMBER: 1983:163571 BIOSIS
DOCUMENT NUMBER: BA75:13571
TITLE: ISO **DI TYROSINE** A NEW CROSS LINKING AMINO-ACID FROM PLANT CELL WALL GLYCO **PROTEIN**.
AUTHOR(S): FRY S C
CORPORATE SOURCE: DEP. BIOCHEMISTRY, UNIV. CAMBRIDGE, TENNIS COURT ROAD, CAMBRIDGE CB2 1QW, UK.
SOURCE: BIOCHEM J, (1982) 204 (2), 449-456.
CODEN: BIJOAK. ISSN: 0306-3275.
FILE SEGMENT: BA; OLD
LANGUAGE: English
AB Cell-wall hydrolysates from callus of Solanum tuberosum contained a new phenolic amino acid for which the trivial name isodityrosine is proposed. Isodityrosine was an oxidatively coupled dimer of tyrosine with the 2 tyrosine units linked by a diphenyl ether bridge. The amount of isodityrosine in sodium dodecyl sulfate-insoluble cell-wall preparations was proportional to the amount of hydroxyproline. Acidified chlorite split the diphenyl ether bridge of isodityrosine and concomitantly solubilized the cell-wall glycoprotein. Dithiothreitol inhibited isodityrosine synthesis in vivo and suppressed in parallel the covalent binding of newly synthesized **protein** in the cell wall. Evidently isodityrosine is an inter-**polypeptide** cross-link responsible for the insolubility of plant cell-wall glycoprotein.

L7 ANSWER 21 OF 38 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1976:148094 CAPLUS
DOCUMENT NUMBER: 84:148094
TITLE: Metabolism of free tyrosine in hemolymph and fat body of caterpillar of Celerio euphorbiae L. (Lepidoptera)
AUTHOR(S): Wilinska, L.; Piechowska, M. J.
CORPORATE SOURCE: Inst. Biochem. Biophys., Pol. Acad. Sci., Warsaw, Pol.
SOURCE: Bulletin de l'Academie Polonaise des Sciences, Serie des Sciences Biologiques (1975), 23(11), 735-8
CODEN: BAPBAN; ISSN: 0001-4087
DOCUMENT TYPE: Journal
LANGUAGE: English
AB When tyrosine-14C was injected into C. euphorbia caterpillars on the 2nd day of the 5th instar, radioactivity was detected in the hemolymph in tyrosine and a tyrosine-contg. dipeptide. When tyrosine-14C was injected on the 2nd day of the wandering state (prior to pupal diapause), radioactivity was detected in the hemolymph in tyrosine, dipeptide, and dopa, and in the fat body in dipeptide, dopa, and dopamine.

L7 ANSWER 22 OF 38 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN
ACCESSION NUMBER: 2003:325621 BIOSIS
DOCUMENT NUMBER: PREV200300325621
TITLE: STRUCTURAL MODIFICATIONS OF HUMAN alpha - SYNUCLEIN: EFFECTS ON **PROTEIN** AGGREGATION AND NEUROTOXICITY.
AUTHOR(S): Zhou, W. (1); Freed, C. R. (1)
CORPORATE SOURCE: (1) Div Clinical Pharmacology, the Neuroscience Program, Univ of Colorado Health Sci Ctr, Denver, CO, USA USA
SOURCE: Society for Neuroscience Abstract Viewer and Itinerary Planner, (2002) Vol. 2002, pp. Abstract No. 689.5. http://sfn.scholarone.com. cd-rom.
Meeting Info.: 32nd Annual Meeting of the Society for Neuroscience Orlando, Florida, USA November 02-07, 2002 Society for Neuroscience

DOCUMENT TYPE: Conference
LANGUAGE: English
AB The deposition of alpha-synuclein and other cell proteins in Lewy bodies in midbrain dopamine neurons is a pathological hallmark of Parkinson's disease (PD). In vitro, oxidation and nitration of alpha-synuclein leads to the formation of dimers, polymers and fibrils through **di-tyrosine** cross-linking, suggesting that the cross-linking process can seed and initiate **protein** precipitation. To determine if enhanced dimer formation can accelerate **protein** aggregation and increase neuronal toxicity, we have substituted cysteine (C) for tyrosine (Y) at positions 39, 125, 133, 136 in human wild-type alpha-synuclein, and in A53T and A30P mutant alpha-synuclein. To reduce the likelihood of cross-linking, phenylalanine (F) was substituted for tyrosine at the same sites. We examined aggregate formation and neurotoxic effects of these constructs in a rat dopaminergic cell line (N27 cells) by transient transfection. Results showed that expression of Y39C or Y125C mutant proteins led to large intracellular inclusions. Both proteins produced more cell death compared to wild type human alpha-synuclein. Overexpression of Y133C, Y136C and all four Y to F mutations did not generate inclusions and were not more cytotoxic than wild type control. Under oxidizing conditions in vitro, recombinant Y39C or Y125C proteins showed more abundant dimer and polymer formation than wild type alpha-synuclein. We conclude that increased dimer formation can accelerate **protein** aggregation and neuronal toxicity of alpha-synuclein.

L7 ANSWER 23 OF 38 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN
ACCESSION NUMBER: 1980:233614 BIOSIS
DOCUMENT NUMBER: BA70:26110
TITLE: O O **DI TYROSINE** IN NATIVE AND HORSERADISH PEROXIDASE ACTIVATED GALACTOSE OXIDASE EC-1.1.3.9.
AUTHOR(S): TRESSEL P; KOSMAN D J
CORPORATE SOURCE: DEP. BIOCHEM., STATE UNIV. N.Y., BUFFALO, N.Y. 14214, USA.
SOURCE: BIOCHEM BIOPHYS RES COMMUN, (1980) 92 (3), 781-786. CODEN: BBRCA9. ISSN: 0006-291X.
FILE SEGMENT: BA; OLD
LANGUAGE: English
AB Treatment of [Dactylium dendroides] galactose oxidase with catalytic amounts of horseradish peroxidase results in increases in enzyme activity and Cu(II)-associated absorbance. This reaction requires O2 and is reversed upon removal of O2 or peroxidase. o,o-Dityrosine is detected in amino acid hydrolysates of peroxidase-treated galactose oxidase as a ninhydrin peak. Even native enzyme contains this species as detected by fluorescence measurements. Peroxidase treatment increases the amount of dityrosine present. The dityrosine forms an intramolecular crosslink, the 1st such crosslink found in a nonstructural **protein**. The peroxidase-catalyzed formation of the dityrosine and putative precursor radical(s) is thought to involve a tyrosyl ligand to the Cu(II) in galactose oxidase. Such a radical may be involved in the activation observed.

L7 ANSWER 24 OF 38 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN
ACCESSION NUMBER: 1972:193983 BIOSIS
DOCUMENT NUMBER: BA54:23977
TITLE: ISOLATION OF **DI TYROSINE** FROM AN ALKALI SOLUBLE CONNECTIVE TISSUE **PROTEIN**.
AUTHOR(S): KEELEY F W; LABELLA F S
SOURCE: BIOCHIM BIOPHYS ACTA, (1972) 263 (1), 52-59. CODEN: BBACAQ. ISSN: 0006-3002.
FILE SEGMENT: BA; OLD
LANGUAGE: Unavailable

L7 ANSWER 25 OF 38 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN
ACCESSION NUMBER: 1969:147023 BIOSIS

DOCUMENT NUMBER: BA50:85023
TITLE: **DI TYROSINE** IN A NON-HYDROXY PROLINE ALKALI SOLUBLE **PROTEIN** ISOLATED FROM CHICK AORTA AND BOVINE LIGAMENT.
AUTHOR(S): KEELEY F W; LABELLA F; QUEEN G
SOURCE: BIOCHEM BIOPHYS RES COMMUN, (1969) 34 (2), 156-161. CODEN: BBRCA9. ISSN: 0006-291X.
FILE SEGMENT: BA; OLD
LANGUAGE: Unavailable

L7 ANSWER 26 OF 38 SCISEARCH COPYRIGHT 2003 THOMSON ISI on STN
ACCESSION NUMBER: 97:399563 SCISEARCH
THE GENUINE ARTICLE: WZ427
TITLE: **Protein** oxidation of a hair sample kept in Alaskan ice for 800-1000 years
AUTHOR: Lubec G (Reprint); Zimmerman M R; TeschlerNicola M; Stocchi V; Aufderheide A C
CORPORATE SOURCE: UNIV VIENNA, DEPT PEDIAT, WAEHRINGER GUERTEL 18, A-1090 VIENNA, AUSTRIA (Reprint); UNIV VIENNA, DEPT ANTHROPOL, A-1090 VIENNA, AUSTRIA; UNIV PENN, DEPT ANTHROPOL, PHILADELPHIA, PA 19104; UNIV URBINO, IST CHIM BIOL, I-61029 URBINO, ITALY; UNIV MINNESOTA, DULUTH, MN 55812
COUNTRY OF AUTHOR: AUSTRIA; USA; ITALY
SOURCE: FREE RADICAL RESEARCH, (9 MAY 1997) Vol. 26, No. 5, pp. 457-462.
Publisher: HARWOOD ACAD PUBL GMBH, C/O STBS LTD, PO BOX 90, READING, BERKS, ENGLAND RG1 8JL.
ISSN: 1071-5762.
DOCUMENT TYPE: Article; Journal
FILE SEGMENT: LIFE
LANGUAGE: English
REFERENCE COUNT: 17
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB Ancient finds of organic matter are not only of the highest value for palaeochemists and palaeobiologists but can be used to determine basic chemical reactions, such as **protein** oxidation, over long time periods. We studied oxidation of human hair **protein** about one thousand years old of an Alaskan child buried in ice, ten hair samples of copts of comparable age buried in graves of hot dry sand and compared the results to ten recent hair samples. **Protein** oxidation parameters o-tyrosine and cysteic acid of the Alaskan child were comparable to recent samples whereas they were higher in the coptic specimen. N-epsilon-carboxymethyllysine, a parameter for glycoxidation, however, was as high in coptic specimen. We conclude that ice in contrast to soil prevented **protein** oxidation but failed to inhibit glycoxidation, a reaction initiated by autaoxidation of glucose. This study therefore has implications far the interpretation of oxidation and glycoxidation as well as preservation mechanisms of proteins.

L7 ANSWER 27 OF 38 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN
ACCESSION NUMBER: 1984:350466 BIOSIS
DOCUMENT NUMBER: BA78:86946
TITLE: AN INTRA MOLECULAR LINKAGE INVOLVING ISO **DI TYROSINE** IN EXTENSIN.
AUTHOR(S): EPSTEIN L; LAMPORT D T A
CORPORATE SOURCE: MSU-DOE PLANT RES. LAB., MICH. STATE UNIV., EAST LANSING, MI 48824, U.S.A.
SOURCE: PHYTOCHEMISTRY (OXF), (1984) 23 (6), 1241-1246. CODEN: PYTCAS. ISSN: 0031-9422.
FILE SEGMENT: BA; OLD
LANGUAGE: English

AB Isodityrosine, a diphenyl ether linked amino acid, was isolated from cell wall hydrolysates [of Lycopersicon esculentum or Acer pseudoplatanus] and from 2 tryptic peptides of extensin. Determination of the MW, net charges and composition of the peptides indicated that isodityrosine (IDT) can

form a short intramolecular linkage in sequences consisting of: .**GRAPHIC**.

L7 ANSWER 28 OF 38 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN
ACCESSION NUMBER: 1980:125903 BIOSIS
DOCUMENT NUMBER: BA69:899
TITLE: THE CONTENT OF **DI TYROSINE** IN CHICK AND RABBIT AORTA PROTEINS.
AUTHOR(S): MALANIK V; LEDVINA M
CORPORATE SOURCE: RES. INST. BIOFACTORS, 281 61 KOURIM, CZECH.
SOURCE: CONNECT TISSUE RES, (1979) 6 (4), 235-240.
CODEN: CVTRBC. ISSN: 0300-8207.
FILE SEGMENT: BA; OLD
LANGUAGE: English
AB The possible presence of dityrosine in elastin derived by 2 different methods and in structural glycoproteins from aortas of 1 day old chicks, adult rabbits and fetal rabbits was determined by a sensitive spectrofluorimetric procedure. Only chick tissues contained dityrosine, 0.3 residues/100,000 total amino acid residues in aortic elastin and 12-15 residues/100,000 residues in structural glycoproteins. No dityrosine was detected in any fetal or mature rabbit tissues. Related fluorescent compounds with different excitation-emission maxima and different elution times were obtained by ion exchange chromatography of structural glycoproteins partially hydrolyzed under alkaline conditions.

L7 ANSWER 29 OF 38 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1985:113935 CAPLUS
DOCUMENT NUMBER: 102:113935
TITLE: Amino acids and peptides. IV. Synthesis and analgesic effects of Tyr-containing dipeptide phenethylamides
AUTHOR(S): Maeda, Mitsuko; Okusada, Satoshi; Kawasaki, Koichi
CORPORATE SOURCE: Fac. Pharm. Sci., Kobe-Gakuin Univ., Kobe, 673, Japan
SOURCE: Chemical & Pharmaceutical Bulletin (1984), 32(10), 4157-60
CODEN: CPBTAL; ISSN: 0009-2363
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Title compds. H-Tyr-NH(CH2)nCONHCH2CH2Ph [n = 3, 4 (I), 5) and R-Tyr-NMe(CH2)4CONMeCH2CH2R1 (II; R = H, R1 = Ph, 2-pyridyl; R = Me, R1 = Ph) were prepd. by conventional methods and their analgesic effects were detd. Thus, Z-Ava-OH [Z = PhCH2O2C, Ava = NH(CH2)4CO] was condensed with H2NCH2CH2Ph by the mixed anhydride method to give 88% Z-Ava-NHCH2CH2Ph, which was Z-deblocked by hydrogenolysis and then coupled with Z-Tyr-NHNH2 by the azide method to give 61% Z-Tyr-Ava-NHCH2CH2Ph. The latter was Z-deblocked by hydrogenolysis to give 94% I. I did not exhibit analgesic activity in mice at 40 mg/kg, but II (R = H, R1 = Ph) showed analgesic action at the same dose.

L7 ANSWER 30 OF 38 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN
ACCESSION NUMBER: 1983:326521 BIOSIS
DOCUMENT NUMBER: BA76:84013
TITLE: RADIOLYTIC AND ENZYMATIC DIMERIZATION OF TYROSYL RESIDUES IN INSULIN RNASE PAPAIN AND COLLAGEN.
AUTHOR(S): BOGUTA G; DANCEWICZ A M
CORPORATE SOURCE: INSTITUTE NUCLEAR RESEARCH, DEP. RADIOBIOL. HEALTH PROTECTION, WARSZAWA 03-195, POLAND.
SOURCE: INT J RADIAT BIOL RELAT STUD PHYS CHEM MED, (1983) 43 (3), 249-266.
CODEN: IJRBA3. ISSN: 0020-7616.
FILE SEGMENT: BA; OLD
LANGUAGE: English
AB Insulin, RNase, papain and [rat skin] collagen solutions saturated with nitrogen, N2O or air were irradiated with doses of 10-640 Gy [gray] of gamma rays. **Protein** solutions were also oxidized enzymatically

in a system of horseradish peroxidase:hydrogen peroxide. Column chromatography (Sephadex G-75 or Sephacryl S-200) of treated **protein** solutions revealed that they contain **protein** molecular aggregates. Nitrogen saturation of the solution before irradiation was most favorable for radiation-induced aggregation of proteins. Fluorescence analysis of **protein** solutions resulted in detection of dityrosyl structures in irradiated as well as in enzymatically oxidized proteins. Concentrations of dityrosine in proteins studied was determined fluorimetrically in their hydrolysates separated on a BioGel P-2 column. In irradiated proteins, dityrosine was present almost exclusively in their aggregated forms. In proteins oxidized enzymatically, dityrosine was also present in fractions containing apparently unchanged **protein**. Mechanisms which could account for differences in the yield of dityrosine formation in radiolysis and in enzymatic oxidation of proteins are suggested.

L7 ANSWER 31 OF 38 MEDLINE on STN
ACCESSION NUMBER: 93374133 MEDLINE
DOCUMENT NUMBER: 93374133 PubMed ID: 8365549
TITLE: Post-translational chemical modifications of proteins--III. Current developments in analytical procedures of identification and quantitation of post-translational chemically modified amino acid(s) and its derivatives.
AUTHOR: Han K K; Martinage A
CORPORATE SOURCE: Unite INSERM No. 16, Lille, France.
SOURCE: INTERNATIONAL JOURNAL OF BIOCHEMISTRY, (1993 Jul) 25 (7) 957-70. Ref: 107
Journal code: 0250365. ISSN: 0020-711X.
PUB. COUNTRY: ENGLAND: United Kingdom
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
(REVIEW, ACADEMIC)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199310
ENTRY DATE: Entered STN: 19931022
Last Updated on STN: 19931022
Entered Medline: 19931005

AB 1. The Chemical modifications of amino acids and their derivatives are mainly due to different post-translational enzymatic reactions. 2. The enzymatic reactions resulting in amino acids such as acetylation-, formylation, methylation-phosphorylation-, sulfation-, hydroxylation, ADP ribosylation-, carboxylation-, amidation-, adenylylation-, glycosylation-, ubiquitination-, prenylation and acylation are listed and analytical methods are reported and extensively reviewed. 3. The post-translationally modified cross-linking molecules after maturations such as desmosines, allo-desmosine, hydroxy-, lysylpyridinoline, 3-hydroxypyridinium derivatives, cyclopentenosine recently found in matured elastin, and in collagen, and pulcherosine a novel tyrosine-derived found in fertilization envelope of Sea Urchin embryo, **di-tyrosine** in resilin, gamma-glutamyl-lysine isopeptide cross-linking molecule etc. are listed and both physico-chemical and analytical methods are extensively reviewed and discussed. 4. Other consequences of post-translational modifications encountered in the analytical procedure such as N-terminal step-wise Edman degradation of glycosylated site(s), phosphorylated-site(s) and or sulfated-site(s) were also reported by us.

L7 ANSWER 32 OF 38 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1995:598325 CAPLUS
DOCUMENT NUMBER: 123:78057
TITLE: Purification and characterization of a major kyotorphin-hydrolyzing peptidase of rat brain
AUTHOR(S): Akasaki, Kenji; Yoshimoto, Hiroko; Nakamura, Akihiro; Shiomi, Hirohito; Tsuji, Hiroshi

CORPORATE SOURCE: Fac. Pharmacy and Pharmaceutical Sciences Fukuyama Univ., Hiroshima, 729-02, Japan
SOURCE: Journal of Biochemistry (Tokyo) (1995), 117(4), 897-902
CODEN: JOBIAO; ISSN: 0021-924X
PUBLISHER: Japanese Biochemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
AB We purified a major kyotorphin (L-Tyr-L-Arg)-hydrolyzing peptidase (KTPase) from the rat brain, to electrophoretic homogeneity using conventional chromatog. techniques. KTPase was purified 1660-fold with a specific activity of 161 .mu.mol/min/mg **protein** and 6.8% recovery. The purified enzyme was composed of a single **polypeptide** with a mol. mass of 67 kDa and an isoelec. point (pI) of 5.5. KTPase has the ability to hydrolyze a variety of natural dipeptides. It also liberated NH2-terminal tyrosine from Tyr-Gly-Gly and Tyr-Tyr-Leu. Bestatin and arphamenine B were potent inhibitors of this enzyme, while amastatin and puromycin had little effect. An excess of anti-KTPase antibody raised in a white rabbit pptd. approx. 80% of the kyotorphin-hydrolyzing activity in the cytosol of rat brain. These data suggested that 67 kDa KTPase has a role in the degrdn. of kyotorphin within neuronal cells of the rat brain.

L7 ANSWER 33 OF 38 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN
ACCESSION NUMBER: 1976:236997 BIOSIS
DOCUMENT NUMBER: BA62:66997
TITLE: OCCURRENCE OF RESILIN AND ITS SIGNIFICANCE IN THE CUTICLE OF PENNELLA-ELEGANS A COPEPOD PARASITE.
AUTHOR(S): KANNUPANDI T
SOURCE: ACTA HISTOCHEM, (1976) 56 (1), 73-79.
CODEN: AHISA9. ISSN: 0065-1281.
FILE SEGMENT: BA; OLD
LANGUAGE: Unavailable
AB The cuticle of the region connecting the anterior and posterior half of the body of parasite shows 2 peculiarities. The epicuticle is folded and the lamellations in the outer region of the procuticle are wavy. Histochemical tests and investigations with fluorescent compounds showed that there is evidence of stabilization of the cuticle **protein** by formation of dityrosine trityrosine links as reported in the wing ligament cuticle of insects and elastic leg-hinge of the crayfish. The 2 amino acids were chromatographically isolated they were involved in the stabilization of resilin; this region probably serves as a flexible hinge.

L7 ANSWER 34 OF 38 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V. on STN
ACCESSION NUMBER: 97060835 EMBASE
DOCUMENT NUMBER: 1997060835
TITLE: Building up the family of ITIM-bearing negative coreceptors.
AUTHOR: Daeron M.
CORPORATE SOURCE: M. Daeron, Lab. d'Immunol. Cellulaire/Clinique, INSERM U255, Institut Curie, 26, Rue d'Ulm, Paris, France. marc.daeron@curie.fr
SOURCE: Immunology Letters, (1996) 54/2-3 (73-76).
Refs: 35
ISSN: 0165-2478 CODEN: IMLED6
PUBLISHER IDENT.: S 0165-2478(96)02652-1
COUNTRY: Netherlands
DOCUMENT TYPE: Journal; Conference Article
FILE SEGMENT: 025 Hematology
026 Immunology, Serology and Transplantation
LANGUAGE: English
SUMMARY LANGUAGE: English
AB The acronym (ITAM) for immunoreceptor tyrosine-based activation motif was first proposed in September 1994, during the 8th Meeting on Signals and Signal Processing in the Immune System held in Kecskemet, Hungary, to

designate the **di-tyrosine**-based YxxL activation motifs that had been previously understood by Michael Reth to account for the cell-triggering properties of BCR, TCR and FcR. It was then agreed, by those who signed the collective letter John Cambier had been commissioned to submit to Immunology Today (Cambier, J.C. (1994) Immunol. Today 16, 110-110) that it was premature to propose ITIM (for immunoreceptor tyrosine-based inhibition motif) to designate the one inhibitory sequence containing a single YslL motif that had been identified in the intracytoplasmic domain of a low-affinity Fc receptor for IgG. Right away, ITAM became unanimously accepted and widely used in the literature. Remarkably, ITIM was soon adopted too and, in September 1996, a whole session of the 9th Signal Meeting, held in Tihany, Hungary, was devoted to ITIM. During the last 2 years, evidence accumulated that indeed accredited the ITIM concept.

L7 ANSWER 35 OF 38 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1967:16744 CAPLUS
DOCUMENT NUMBER: 66:16744
TITLE: Fructose diphosphatase from rabbit liver. VIII. Involvement of tyrosine residues in the catalytic activity
AUTHOR(S): Pontremoli, Sandro; Grazi, Enrico; Accorsi, Augusto
CORPORATE SOURCE: Univ. Ferrara, Ferrara, Italy
SOURCE: Journal of Biological Chemistry (1967), 242(1), 61-6
CODEN: JBCHA3; ISSN: 0021-9258
DOCUMENT TYPE: Journal
LANGUAGE: English
AB cf. CA 66, 220c. The coupling of fructose diphosphatase with 6 moles of diazobenzenesulfonic acid per mole of enzyme causes inactivation. The analysis of the modified **protein** reveals that the coupling reaction affects mainly tyrosine residues. Mg++ or Mn++ partially protects against the inactivation by diazobenzenesulfonic acid but does not prevent the incorporation of the reagent. The deriv. obtained by coupling the **protein** mol. with approx. 3 moles of diazobenzenesulfonic acid per mole of enzyme is still catalytically active, but is no longer susceptible to AMP inhibition.

L7 ANSWER 36 OF 38 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1985:62575 CAPLUS
DOCUMENT NUMBER: 102:62575
TITLE: Copper(II) complexes of tyrosine-containing dipeptides. Effects of side-chain groups on spectral and solution chemical properties and their structural implication
AUTHOR(S): Yamauchi, Osamu; Tsujide, Kiyokazu; Odani, Akira
CORPORATE SOURCE: Fac. Pharm. Sci., Kanazawa Univ., Kanazawa, 920, Japan
SOURCE: Journal of the American Chemical Society (1985), 107(3), 659-66
CODEN: JACSAT; ISSN: 0002-7863
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 102:62575
AB The structures and stabilities of Cu(II) complexes with H-Tyr-X-OH (I; X = Ala, D-Ala, Arg, D-Arg, Trp, D-Trp, His, D-His, Tyr, D-Tyr, Phe, D-Glu) were studied by spectroscopic and potentiometric methods. The peptides reacted with Cu(II) in a manner analogous to that of H-Tyr-Gly-OH, but the deprotonation of the **peptide** NH group was affected by the C-terminal side-chain groups. I, except for X = His, D-His, formed dimeric species at pH 8-11, the max. distribution occurred at pH .apprx.9.5 in the 1:1 Cu(II)-I systems with the dimer accounting for as much as 80% of the total Cu(II) in 5 mM Cu(II)-H-Tyr-Trp-OH. The absorption spectra of the 1:1 systems (.apprx.2 mM) exhibited a d-d peak at 610-630 nm at pH >6 and in the presence of the dimeric complex an addnl. peak at .apprx.380 nm, whose assignment to the charge transfer between Cu(II) and the phenolate group was confirmed by the resonance

Raman spectra of isolated complexes [Cu(Tyr-Trp)].0.5 H2O and Na2[Cu2(Tyr-Gly)2].7.5 H2O. The CD spectral magnitudes in the d-d region for the Cu(II)-I complexes with an aliph. X were an additive function of those exhibited by the component amino acid complexes irresp. of the diastereoisomerism of the peptides, but remarkable CD magnitude anomaly was obsd. for D-L peptides when X was an arom. amino acid.

L7 ANSWER 37 OF 38 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN
ACCESSION NUMBER: 2002:252458 BIOSIS
DOCUMENT NUMBER: PREV200200252458
TITLE: Determination of total urine antioxidant activity.
AUTHOR(S): Kirschbaum, Barry (1)
CORPORATE SOURCE: (1) Virginia Commonwealth University, Richmond, VA USA
SOURCE: Journal of the American Society of Nephrology, (September, 2000) Vol. 11, No. Program and Abstract Issue, pp. 545A. http://www.jasn.org/. print.
Meeting Info.: 33rd Annual Meeting of the American Society of Nephrology and the 2000 Renal Week Toronto, Ontario, Canada October 10-16, 2000
ISSN: 1046-6673.
DOCUMENT TYPE: Conference
LANGUAGE: English

L7 ANSWER 38 OF 38 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN
ACCESSION NUMBER: 1984:350597 BIOSIS
DOCUMENT NUMBER: BA78:87077
TITLE: ISOLATION OF EXTENSIN PRECURSORS BY DIRECT ELUTION ON INTACT TOMATO LYCOPERSICON-ESCULENTUM CELL SUSPENSION CULTURES.
AUTHOR(S): SMITH J J; MULDOON E P; LAMPORT D T A
CORPORATE SOURCE: MSU-DOE PLANT RES. LAB., MICH. STATE UNIV., EAST LANSING, MI 48824, U.S.A.
SOURCE: PHYTOCHEMISTRY (OXF), (1984) 23 (6), 1233-1240.
CODEN: PYTCAS. ISSN: 0031-9422.
FILE SEGMENT: BA; OLD
LANGUAGE: English
AB Dilute salt solutions eluted peroxidase and hydroxyproline[Hyp]-rich glycoproteins (HRGP) very rapidly (60% within 10 s) from the surface of intact tomato cells grown in suspension culture. Further purification of the HRGP based on their solubility in 10% trichloroacetic acid and chromatography on carboxymethyl cellulose, gave 2 components (P1 and P2) rich in serine, tyrosine, lysine and arabinosylated hydroxyproline. The sum of the hydroxyproline arabinoside profiles of P1 and P2 approximated that of the wall. P1, unlike P2, was histidine-rich and also contained proline. Isodityrosine (IDT) was absent from P1 and P2 but present in cell wall hydrolysates where the Hyp:IDT molar ratio was .apprx. 15:1. In cells 4 days after subculture, 3H-proline pulse-chase data indicated turnover of P1 and P2 presumably resulting from covalent attachment to the wall as neither P1 nor P2 appeared in the growth medium. At day 4 the cell mean generation time (MGT) was 4.6 days, the cell hydroxyproline content was 0.7% (wt/wt), the half lives of P1 and P2 were both .apprx. 12 h, and the combined CaCl2 elutable P1 and P2 precursor pools contained .apprx. 400 .mu.g Hyp/g cells (dry wt). Calculated from the MGT and Hyp content, the cell demand was 44 .mu.g Hyp/g cells (dry wt)/h. The precursor pool size was therefore sufficient for 9 h growth. The pool turnover calculated from half life and pool size was 5.6%/h or 22.4 .mu.g Hyp/g cells (dry wt)/h. The supply of P1 and P2 precursors met > 50% of the cell wall demand. Corroborative experiments showed that after depletion of the P1 and P2 pools by salt elution, washed cells resuspended in growth medium repleted the precursor pools at a rate corresponding to a synthesis of 43 .mu.g Hyp/g cells (dry wt)/h, or 98% of the demand. P1 and P2 apparently represent monomeric extensin precursor subunits. Salt elution of P1 and P2 indicates their ionic binding by pectic carboxyl groups. This rapidity of elution indicates a high diffusivity of these extended rodlike macromolecules through the cell wall. This may imply a preferred

orientation for P1 and P2 perpendicular rather than parallel to the plane of the wall. The lack of IDT in P1 and P2 implies that IDT forms in muro, possibly via peroxidase. Some of these IDT residues may crosslink an extensin precursor weft around a cellulose microfibrillar warp. Such formation of heteromultimeric extensin interpenetrated by microfibrils would create a mechanically coupled extensin-cellulose network.

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=> d his

     (FILE 'HOME' ENTERED AT 14:07:31 ON 02 AUG 2003)

     FILE 'MEDLINE, CAPLUS, BIOSIS, BIOTECHDS, SCISEARCH, EMBASE' ENTERED AT
     14:08:04 ON 02 AUG 2003
L1             0 S (DI-TYROSINE OR DITYROSYLE OR DITYROSYL CROSS-LINK?) AND STAB
L2             0 S (DI-TYROSINE OR DITYROSYLE OR DITYROSYL CROSS-LINK?) AND STAB
L3             2 S (DI-TYROSINE OR DITYROSYLE OR DITYROSYL CROSS-LINK?) AND STAB
L4             2 DUP REM L3 (0 DUPLICATES REMOVED)
L5            59 S (DI-TYROSINE OR DITYROSYLE OR DITYROSYL CROSS-LINK?) AND (PEP
L6            38 DUP REM L5 (21 DUPLICATES REMOVED)
L7            38 FOCUS L6 1-

=> s l6 and protein stabiliz?
L8             0 L6 AND PROTEIN STABILIZ?

=> s l6 and  stabilized protein
L9             0 L6 AND STABILIZED PROTEIN

=> s l6 and  stabilised protein
L10            0 L6 AND STABILISED PROTEIN

=> s l6 and  stabiliz? protein
L11            0 L6 AND STABILIZ? PROTEIN

=> s l6 and  stabiliz? peptide
L12            0 L6 AND STABILIZ? PEPTIDE

=> s l6 and  stabiliz? enzyme?
L13            0 L6 AND STABILIZ? ENZYME?

=> s l6 and  stabilization of enzyme?
L14            0 L6 AND STABILIZATION OF ENZYME?

=> s l6 and  stabilized
L15            0 L6 AND STABILIZED

=>

=> s l6 and enzyme
L16            7 L6 AND ENZYME

=> d l16 1-7 ibib ab

L16  ANSWER 1 OF 7      MEDLINE on STN
ACCESSION NUMBER:    2003079547      MEDLINE
DOCUMENT NUMBER:     22478836    PubMed ID: 12456264
TITLE:               Detection of HOCl-mediated protein oxidation
                     products in the extracellular matrix of human
                     atherosclerotic plaques.
AUTHOR:              Woods Alan A; Linton Stuart M; Davies Michael J
CORPORATE SOURCE:    The Heart Research Institute, 145 Missenden Road,
                     Camperdown, Sydney, New South Wales 2050, Australia.
SOURCE:              BIOCHEMICAL JOURNAL, (2003 Mar 1) 370 (Pt 2) 729-35.
                     Journal code: 2984726R. ISSN: 0264-6021.
PUB. COUNTRY:        England: United Kingdom
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DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200304
ENTRY DATE: Entered STN: 20030221
Last Updated on STN: 20030403
Entered Medline: 20030402

AB Oxidation is believed to play a role in atherosclerosis. Oxidized lipids, sterols and proteins have been detected in early, intermediate and advanced human lesions at elevated levels. The spectrum of oxidized side-chain products detected on proteins from homogenates of advanced human lesions has been interpreted in terms of the occurrence of two oxidative mechanisms, one involving oxygen-derived radicals catalysed by trace transition metal ions, and a second involving chlorinating species (HOCl or Cl(2)), generated by the haem **enzyme** myeloperoxidase (MPO). As MPO is released extracellularly by activated monocytes (and possibly macrophages) and is a highly basic **protein**, it would be expected to associate with polyanions such as the glycosaminoglycans of the extracellular matrix, and might result in damage being localized at such sites. In this study proteins extracted from extracellular matrix material obtained from advanced human atherosclerotic lesions are shown to contain elevated levels of oxidized amino acids [3,4-dihydroxyphenylalanine (DOPA), **di-tyrosine**, 2-hydroxyphenylalanine (o-Tyr)] when compared with healthy (human and pig) arterial tissue. These matrix-derived materials account for 83-96% of the total oxidized **protein** side-chain products detected in these plaques. Oxidation of matrix components extracted from healthy artery tissue, and model proteins, with reagent HOCl is shown to give rise to a similar pattern of products to those detected in advanced human lesions. The detection of elevated levels of DOPA and o-Tyr, which have been previously attributed to the occurrence of oxygen-radical-mediated reactions, by HOCl treatment, suggests an alternative route to the formation of these materials in plaques. This is believed to involve the formation and subsequent decomposition of **protein** chloramines.

L16 ANSWER 2 OF 7 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1995:598325 CAPLUS
DOCUMENT NUMBER: 123:78057
TITLE: Purification and characterization of a major kyotorphin-hydrolyzing peptidase of rat brain
AUTHOR(S): Akasaki, Kenji; Yoshimoto, Hiroko; Nakamura, Akihiro; Shiomi, Hirohito; Tsuji, Hiroshi
CORPORATE SOURCE: Fac. Pharmacy and Pharmaceutical Sciences Fukuyama Univ., Hiroshima, 729-02, Japan
SOURCE: Journal of Biochemistry (Tokyo) (1995), 117(4), 897-902
CODEN: JOBIAO; ISSN: 0021-924X
PUBLISHER: Japanese Biochemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English

AB We purified a major kyotorphin (L-Tyr-L-Arg)-hydrolyzing peptidase (KTPase) from the rat brain, to electrophoretic homogeneity using conventional chromatog. techniques. KTPase was purified 1660-fold with a specific activity of 161 .mu.mol/min/mg **protein** and 6.8% recovery. The purified **enzyme** was composed of a single **polypeptide** with a mol. mass of 67 kDa and an isoelec. point (pI) of 5.5. KTPase has the ability to hydrolyze a variety of natural dipeptides. It also liberated NH2-terminal tyrosine from Tyr-Gly-Gly and Tyr-Tyr-Leu. Bestatin and arphamenine B were potent inhibitors of this **enzyme**, while amastatin and puromycin had little effect. An excess of anti-KTPase antibody raised in a white rabbit pptd. approx. 80% of the kyotorphin-hydrolyzing activity in the cytosol of rat brain. These data suggested that 67 kDa KTPase has a role in the degrdn. of kyotorphin within neuronal cells of the rat brain.

L16 ANSWER 3 OF 7 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1995:15374 CAPLUS
DOCUMENT NUMBER: 122:154878
TITLE: Kinetic characterization of carboxypeptidase-Y-catalyzed **peptide** semisynthesis Prediction of yields
AUTHOR(S): Christensen, U.
CORPORATE SOURCE: Dep. Chem., Univ. Copenhagen, Copenhagen, Den.
SOURCE: Amino Acids (1994), 6(2), 177-87
CODEN: AACIE6; ISSN: 0939-4451
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Carboxypeptidase-Y-catalyzed **peptide** semisynthesis has been characterized at pH 7.5, 25.degree. C from initial rate steady state kinetic and progress reaction studies of hydrolysis and aminolysis of .alpha.-N-benzoyl-L-tyrosine 4-nitroanilide using the natural L-amino acids and their amides as nucleophiles. The reaction mechanism previously shown to account for carboxypeptidase-Y-catalyzed aminolysis reactions (Christensen et al., 1992) was found also to account for all of the reactions studied here. It involves in addn. to the classical serine proteinase mechanism: (i) complex formation between the free **enzyme** and the nucleophile, an interaction characterized by the competitive inhibition const., Ki, and (ii) reaction of the nucleophile with the acylated **enzyme** forming a complex of **enzyme** and aminolysis product, characterized by the aminolysis kinetic parameter, K'N. A competitive inhibitory effect showing binding to the free **enzyme** is seen mainly with large hydrophobic amino acids and their amides, i.e., the same residues as those preferred on either side of the scissile bond in carboxypeptidase-Y substrates. The stoichiometry of the inhibition is 1:1 and the actual binding position most likely is that of the leaving group of substrates, S'1. Aminolysis effects are obtained with a wide range of amino acids and amino acid amides; exceptions are Pro and, probably due to their low soly., Tyr, Trp, Asp and Glu. The K'N-values show relatively little dependence on the chem. nature of the side groups, but a marked difference between the amino acid and its amide. The amides interact more strongly. The kinetic parameter, kc/Km, of the hydrolysis of the aminolysis products is another important factor in **peptide** semisynthesis. The kc/Km-values obtained on the amidated aminolysis products are much less than those of the products formed with free amino acids. All in all this leads to rather efficient aminolysis with the L-amino acid amides and poor aminolysis with the L-amino acids.

L16 ANSWER 4 OF 7 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1985:557800 CAPLUS
DOCUMENT NUMBER: 103:157800
TITLE: The eggshell of Drosophila melanogaster III. Covalent crosslinking of the chorion proteins involves endogenous hydrogen peroxide
AUTHOR(S): Margaritis, Lukas H.
CORPORATE SOURCE: Dep. Biol., Univ. Athens, Athens, 157.01, Greece
SOURCE: Tissue & Cell (1985), 17(4), 553-9
CODEN: TICEBI; ISSN: 0040-8166
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Two cytochem. methods, namely, diaminobenzidine for the assay of peroxidases and CeCl3 for the localization of H2O2 showed that eggshell peroxidase exists in 2 of the 5 eggshell layers of D. melanogaster: the innermost chorionic layer and the endochorion. In addn., H2O2 which acts as a substrate for the **enzyme** in vitro enabling the formation of covalent bonding between the eggshell proteins, was produced at the follicle cell plasma membrane during the last stage of oogenesis. Thus, H2O2 is an endogenous, programmed product of the follicle cells, responsible for the action of peroxidase to oxidize the tyrosyl residues producing **di-tyrosine** and tri-tyrosine bonds between the chorion polypeptides.

L16 ANSWER 5 OF 7 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1967:16744 CAPLUS
DOCUMENT NUMBER: 66:16744
TITLE: Fructose diphosphatase from rabbit liver. VIII. Involvement of tyrosine residues in the catalytic activity
AUTHOR(S): Pontremoli, Sandro; Grazi, Enrico; Accorsi, Augusto
CORPORATE SOURCE: Univ. Ferrara, Ferrara, Italy
SOURCE: Journal of Biological Chemistry (1967), 242(1), 61-6
CODEN: JBCHA3; ISSN: 0021-9258
DOCUMENT TYPE: Journal
LANGUAGE: English
AB cf. CA 66, 220c. The coupling of fructose diphosphatase with 6 moles of diazobenzenesulfonic acid per mole of **enzyme** causes inactivation. The analysis of the modified **protein** reveals that the coupling reaction affects mainly tyrosine residues. Mg++ or Mn++ partially protects against the inactivation by diazobenzenesulfonic acid but does not prevent the incorporation of the reagent. The deriv. obtained by coupling the **protein** mol. with approx. 3 moles of diazobenzenesulfonic acid per mole of **enzyme** is still catalytically active, but is no longer susceptible to AMP inhibition.

L16 ANSWER 6 OF 7 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN
ACCESSION NUMBER: 1982:300038 BIOSIS
DOCUMENT NUMBER: BA74:72518
TITLE: OZONE INDUCED FORMATION OF O O' **DI TYROSINE** CROSS LINKS IN PROTEINS.
AUTHOR(S): VERWEIJ H; CHRISTIANSE K; VAN STEVENINCK J
CORPORATE SOURCE: SYLVIUS LAB., DEP. MED. BIOCHEMISTRY, WASSENAARSEWEG 72, 2333 AL LEIDEN.
SOURCE: BIOCHIM BIOPHYS ACTA, (1982) 701 (2), 180-184.
CODEN: BBACAQ. ISSN: 0006-3002.
FILE SEGMENT: BA; OLD
LANGUAGE: English
AB Treatment of human blood spectrin, insulin, glucagon and ribonuclease with O3 resulted in covalent cross-linking of these proteins. This cross-linking was not reversed by treatment with dithiothreitol and could not be ascribed to -S-S bond formation. A concomitant O,O'-dityrosine formation was observed by spectrofluorometric analysis of the **protein** and by amino acid analysis and TLC of hydrolyzed **protein** samples. The **protein** cross-linking should be attributed to interpeptide O,O'-dityrosine bonds. Oxidation of proteins with horseradish peroxidase and H2O2 also led to O,O'-dityrosine formation. Peroxidase-induced O,O'-dityrosine formation in galactose oxidase (D-galactose:oxygen 6-oxidoreductase, EC 1.1.3.9) caused a strong increase of **enzyme** activity. O3 treatment of galactose oxidase also led to O,O'-dityrosine formation with a concomitant 8-fold increase of **enzyme** activity.

L16 ANSWER 7 OF 7 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN
ACCESSION NUMBER: 1980:233614 BIOSIS
DOCUMENT NUMBER: BA70:26110
TITLE: O O **DI TYROSINE** IN NATIVE AND HORSERADISH PEROXIDASE ACTIVATED GALACTOSE OXIDASE EC-1.1.3.9.
AUTHOR(S): TRESSEL P; KOSMAN D J
CORPORATE SOURCE: DEP. BIOCHEM., STATE UNIV. N.Y., BUFFALO, N.Y. 14214, USA.
SOURCE: BIOCHEM BIOPHYS RES COMMUN, (1980) 92 (3), 781-786.
CODEN: BBRCA9. ISSN: 0006-291X.
FILE SEGMENT: BA; OLD
LANGUAGE: English
AB Treatment of [Dactylium dendroides] galactose oxidase with catalytic amounts of horseradish peroxidase results in increases in **enzyme** activity and Cu(II)-associated absorbance. This reaction requires O2 and

is reversed upon removal of O2 or peroxidase. o,o-Dityrosine is detected in amino acid hydrolysates of peroxidase-treated galactose oxidase as a ninhydrin peak. Even native **enzyme** contains this species as detected by fluorescence measurements. Peroxidase treatment increases the amount of dityrosine present. The dityrosine forms an intramolecular crosslink, the 1st such crosslink found in a nonstructural **protein** . The peroxidase-catalyzed formation of the dityrosine and putative precursor radical(s) is thought to involve a tyrosyl ligand to the Cu(II) in galactose oxidase. Such a radical may be involved in the activation observed.

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=> d his

     (FILE 'HOME' ENTERED AT 14:07:31 ON 02 AUG 2003)

     FILE 'MEDLINE, CAPLUS, BIOSIS, BIOTECHDS, SCISEARCH, EMBASE' ENTERED AT
     14:08:04 ON 02 AUG 2003
L1             0 S (DI-TYROSINE OR DITYROSYLE OR DITYROSYL CROSS-LINK?) AND STAB
L2             0 S (DI-TYROSINE OR DITYROSYLE OR DITYROSYL CROSS-LINK?) AND STAB
L3             2 S (DI-TYROSINE OR DITYROSYLE OR DITYROSYL CROSS-LINK?) AND STAB
L4             2 DUP REM L3 (0 DUPLICATES REMOVED)
L5            59 S (DI-TYROSINE OR DITYROSYLE OR DITYROSYL CROSS-LINK?) AND (PEP
L6            38 DUP REM L5 (21 DUPLICATES REMOVED)
L7            38 FOCUS L6 1-
L8             0 S L6 AND PROTEIN STABILIZ?
L9             0 S L6 AND  STABILIZED PROTEIN
L10            0 S L6 AND  STABILISED PROTEIN
L11            0 S L6 AND  STABILIZ? PROTEIN
L12            0 S L6 AND  STABILIZ? PEPTIDE
L13            0 S L6 AND  STABILIZ? ENZYME?
L14            0 S L6 AND  STABILIZATION OF ENZYME?
L15            0 S L6 AND  STABILIZED
L16            7 S L6 AND ENZYME

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FULL ESTIMATED COST                                  196.78     196.99

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)          SINCE FILE      TOTAL
                                                      ENTRY    SESSION
CA SUBSCRIBER PRICE                                  -11.07     -11.07

STN INTERNATIONAL LOGOFF AT 14:23:12 ON 02 AUG 2003
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=> file medline caplus biosis embase
COST IN U.S. DOLLARS                                    SINCE FILE      TOTAL
                                                           ENTRY    SESSION
FULL ESTIMATED COST                                         0.21       0.21

FILE 'MEDLINE' ENTERED AT 14:31:21 ON 02 AUG 2003

FILE 'CAPLUS' ENTERED AT 14:31:21 ON 02 AUG 2003
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FILE 'BIOSIS' ENTERED AT 14:31:21 ON 02 AUG 2003
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FILE 'EMBASE' ENTERED AT 14:31:21 ON 02 AUG 2003
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=> s stabilized protein?
L1          198 STABILIZED PROTEIN?

=> dup rem
ENTER L# LIST OR (END): l1
PROCESSING COMPLETED FOR L1
L2          126 DUP REM L1 (72 DUPLICATES REMOVED)

=> s l2 and (di-tyrosine or dityrosyl)
L3            0 L2 AND (DI-TYROSINE OR DITYROSYL)

=> s l2 and (tyrosine residues)
L4            0 L2 AND (TYROSINE RESIDUES)

=> s l2 and tyrosine
L5            0 L2 AND TYROSINE

=> s l2 and dityrosyl
L6            0 L2 AND DITYROSYL

=> focus l2
PROCESSING COMPLETED FOR L2
L7          126 FOCUS L2 1-

=> d l7 1-7 ibib ab

L7   ANSWER 1 OF 126  CAPLUS  COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER:         2001:763025  CAPLUS
DOCUMENT NUMBER:          135:335111
TITLE:                    Albumin fusion proteins with therapeutic proteins for
                          improved shelf-life
INVENTOR(S):              Rosen, Craig A.; Haseltine, William A.
PATENT ASSIGNEE(S):       Human Genome Sciences, Inc., USA
SOURCE:                   PCT Int. Appl., 2102 pp.
                          CODEN: PIXXD2
DOCUMENT TYPE:            Patent
LANGUAGE:                 English
FAMILY ACC. NUM. COUNT:   7
PATENT INFORMATION:

     PATENT NO.        KIND  DATE           APPLICATION NO.  DATE
     ---------------   ----  --------       ---------------  --------
     WO 2001077137      A1   20011018       WO 2001-US11988  20010412
         W:  AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
             CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM,
             HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS,
             LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO,
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RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

EP 1276756	A1	20030122	EP 2001-944114	20010412
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
US 2003125247	A1	20030703	US 2001-833041	20010412
PRIORITY APPLN. INFO.:			US 2000-229358P P	20000412
			US 2000-199384P P	20000425
			US 2000-256931P P	20001221
			WO 2001-US11988 W	20010412

AB The present invention encompasses fusion proteins of albumin with various therapeutic proteins. Therapeutic proteins may be stabilized to extend the shelf-life, and/or to retain the therapeutic protein's activity for extended periods of time in soln., in vitro and/or in vivo, by genetically or chem. fusing or conjugating the therapeutic protein to albumin or a fragment or variant of albumin. Use of albumin fusion proteins may also reduce the need to formulate the protein solns. with large excesses of carrier proteins to prevent loss of therapeutic proteins due to factors such as binding to the container. Nucleic acid mols. encoding the albumin fusion proteins of the invention are also encompassed by the invention, as are vectors contg. these nucleic acids, host cells transformed with these nucleic acids vectors., and methods of making the albumin fusion proteins of the invention and using these nucleic acids, vectors, and/or host cells. Thus, plasmid vectors are constructed in which DNA encoding the desired therapeutic protein may be inserted for expression of the albumin fusion proteins in yeast (pPPC0005) and mammalian cells (pC4:HSA). Yeast-derived signal sequences from Saccharomyces cerevisiae invertase SUC2 gene, or the stanniocalcin or native human serum albumin signal peptides, are used for secretion in yeast or mammalian systems, resp. Thus, the fusion product of human growth hormone with residues 1-387 of human serum albumin retains essentially intact biol. activity after 5 wk of incubation in tissue culture media at 37.degree., whereas recombinant human growth hormone used as control lost its biol. activity in the first week. Although the potency of the albumin fusion proteins is slightly lower than the unfused counterparts in rapid bioassays, their biol. stability results in much higher biol. activity in the longer term in vitro assay or in vivo assays. Addnl., the present invention encompasses pharmaceutical compns. comprising albumin fusion proteins and methods of treating, preventing, or ameliorating diseases, disorders or conditions using albumin fusion proteins of the invention.

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 2 OF 126 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER:	1995:557694 CAPLUS
DOCUMENT NUMBER:	122:322396
TITLE:	Salt-**stabilized protein** formulation
AUTHOR(S):	Anon.
CORPORATE SOURCE:	UK
SOURCE:	Research Disclosure (1995), 370, 56-7 CODEN: RSDSBB; ISSN: 0374-4353
DOCUMENT TYPE:	Journal
LANGUAGE:	English

AB A formulation of a protein such as somatotropin contains a polyol such as glycerol, a buffer, a nonionic surfactant, and an alk. halide.

L7 ANSWER 3 OF 126 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER:	1997:738723 CAPLUS
DOCUMENT NUMBER:	128:26782
TITLE:	Surfactant-**stabilized protein** formulations: a review of protein-surfactant

interactions and novel analytical methodologies
AUTHOR(S): Jones, Latoya S.; Bam, Narendra B.; Randolph, Theodore W.
CORPORATE SOURCE: Department of Chemical Engineering, ECCH 111, University of Colorado, Boulder, CO, 80309-0424, USA
SOURCE: ACS Symposium Series (1997), 675(Therapeutic Protein and Peptide Formulation and Delivery), 206-222
CODEN: ACSMC8; ISSN: 0097-6156
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal; General Review
LANGUAGE: English
AB A review with refs. Nonionic surfactants play an important role in the pharmaceutics industry. They are found in purifn. steps as well final product formulations. Despite the extensive use of nonionic surfactants, their properties, roles and mechanisms by which they yield desired effects are not well understood. This paper discusses the characterization of nonionic surfactants used in pharmaceutics. A review of the binary surfactant-water system provides an introduction to the difficulties encountered when studying more complex systems. Surfactant behavior under formulation conditions, surfactant binding to pharmaceutical products, the role of surfactants in protein refolding, and the effects of surfactants on accelerated testing of formulations is the focus of this review.
REFERENCE COUNT: 62 THERE ARE 62 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 4 OF 126 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 2000:139144 CAPLUS
DOCUMENT NUMBER: 132:185435
TITLE: **Stabilized protein** compositions for therapeutic use
INVENTOR(S): Canning, Peter Conner; Kammicker, Babara Jean; Kasuraian, Kasra
PATENT ASSIGNEE(S): Pfizer Products Inc., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 30 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2000063264	A2	20000229	JP 1999-230853	19990817
EP 988861	A1	20000329	EP 1999-306262	19990806
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
AU 9944501	A1	20000309	AU 1999-44501	19990816
NZ 337258	A	20010427	NZ 1999-337258	19990816
CN 1250668	A	20000419	CN 1999-122020	19990817
MX 9907663	A	20000930	MX 1999-7663	19990817
BR 9904150	A	20001226	BR 1999-4150	19990817

PRIORITY APPLN. INFO.: US 1998-96876P P 19980817
AB A **stabilized protein** compn. [soln.] which is capable of maintaining at a therapeutic level for approx. 3 days after administration comprises protein selected from colony-stimulating factor, somatotropin, cytokine, antibody, and antigen and stabilizing buffer selected from HEPES, TES and TRICINE. The compns. are useful for treating mastitis, uteritis and respiratory disease in cattle.

L7 ANSWER 5 OF 126 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 2003:23008 CAPLUS
DOCUMENT NUMBER: 138:68938
TITLE: Polymer **stabilized proteinases**
INVENTOR(S): Sherman, Merry R.; Martinez, Alexa L.; Bhaskaran, Shyam S.; Williams, L. David; Saifer, Mark G. P.

PATENT ASSIGNEE(S): Mountain View Pharmaceuticals, Inc., USA
SOURCE: PCT Int. Appl., 87 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003002716	A2	20030109	WO 2002-US20417	20020628

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: US 2001-894071 A 20010628
US 2002-103128 A 20020322

AB Methods are provided for the stabilization of proteinases by the covalent attachment of or admixt. with water-sol. polymers. The resultant **stabilized proteinases** have increased stability under the harsh conditions used in industrial genomics, which permits their use in the extn. and isolation of nucleic acids and the identification of disease-related prion proteins at elevated temps. in solns. contg. chaotropic agents, such as sodium dodecyl sulfate, urea or guanidinium salts, conferring advantages for robotic applications.

L7 ANSWER 6 OF 126 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1999:717837 CAPLUS
DOCUMENT NUMBER: 131:314241
TITLE: **Stabilized protein** crystals, formulations containing them and methods of making them
INVENTOR(S): Margolin, Alexey L.; Khalaf, Nazer K.; St. Clair, Nancy L.; Rakestraw, Scott L.; Shenoy, Bhami C.
PATENT ASSIGNEE(S): Altus Biologics Inc., USA
SOURCE: PCT Int. Appl., 201 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9955310	A1	19991104	WO 1999-US9099	19990427

W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

CA 2330476	AA	19991104	CA 1999-2330476	19990427
AU 9937646	A1	19991116	AU 1999-37646	19990427
AU 757991	B2	20030313		
EP 1073421	A1	20010207	EP 1999-920064	19990427

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI

JP 2002512949	T2	20020508	JP 2000-545510		19990427
US 2002045582	A1	20020418	US 1999-374132		19990810
US 6541606	B2	20030401			
PRIORITY APPLN. INFO.:			US 1998-83148P	P	19980427
			US 1998-224475	A2	19981231
			US 1997-70274P	P	19971231
			WO 1999-US9099	W	19990427

AB Methods are provided for the stabilization, storage, and delivery of biol. active macromols., such as proteins, peptides and nucleic acids. Methods are provided for the crystn. of proteins and nucleic acids and for the prepn. of **stabilized protein** or nucleic acid crystals for use in dry or slurry formulations in pharmaceutical and veterinary formulations, diagnostics, cosmetics, food, and agricultural feeds. The crystals are stabilized by addn. of excipients such as carbohydrates or by encapsulating them in a polymeric carrier. Methods are presented for encapsulating proteins, glycoproteins, enzymes, antibodies, hormones, and peptide crystals or crystal formulations into compns. for biol. delivery to humans and animals. Thus, lipase from Candida rugosa was dissolved in distd. water, treated with celite, adjusted to pH 4.8 with AcOH, filtered, ultrafiltered to remove proteins of <30 kDa mol. wt., and crystn. was initiated by addn. of 2-methyl-2,4-pentanediol. Sucrose was added to the mother liquor to a concn. of 10%, and the crystals were sepd. by centrifugation, suspended in EtOH, and air dried at room temp. Alternatively, the lipase crystals were crosslinked and encapsulated in lactic acid/glycolic acid copolymer; the microspheres formed were 90 .mu.m in diam.

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 7 OF 126 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER:	2001:887068 CAPLUS
DOCUMENT NUMBER:	137:43805
TITLE:	Selection of **stabilized proteins** using a phage-based method
AUTHOR(S):	Martin, Andreas; Schmid, Franz-Xaver
CORPORATE SOURCE:	Lab. of Biochem, Univ. of Bayreith, Bayreuth, 95440, Germany
SOURCE:	Nova Acta Leopoldina, Supplementum (2001), 16(Structure, Self-Organization and Stability of Proteins: Experiments and Models), 129-130 CODEN: NLPSBC; ISSN: 0369-4771
PUBLISHER:	Deutsche Akademie der Naturforscher Leopoldina
DOCUMENT TYPE:	Journal
LANGUAGE:	English

AB Proside (protein stability increased by directed evolution) is an efficient method for selecting proteins with desired properties, such as higher stability, from very large libraries. This method links the increased protease resistance of thermodynamically stabilized variants of a protein with the infectivity of filamentous phages. It is independent of specific protein properties, such as enzymic activity or binding to ligands. The capabilities of this method were demonstrated with two small proteins, the cold shock protein CspB from the mesophilic organism Bacillus subtilis and RNase T1 from Aspergillus oryzae. In both cases, thermodynamically stabilized variants were selected from const. libraries after satg. mutagenesis at specific sites. Besides tailoring proteins for specific applications, the Proside selection system is useful for exploring the mol. origins of protein stability. The system can also be extended to directed mol. evolution methods using iterative mutagenesis, e.g., DNA shuffling.

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

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     (FILE 'HOME' ENTERED AT 14:30:54 ON 02 AUG 2003)

     FILE 'MEDLINE, CAPLUS, BIOSIS, EMBASE' ENTERED AT 14:31:21 ON 02 AUG 2003
L1           198 S STABILIZED PROTEIN?
L2           126 DUP REM L1 (72 DUPLICATES REMOVED)
L3             0 S L2 AND (DI-TYROSINE OR DITYROSYL)
L4             0 S L2 AND (TYROSINE RESIDUES)
L5             0 S L2 AND TYROSINE
L6             0 S L2 AND DITYROSYL
L7           126 FOCUS L2 1-

=> log
ALL L# QUERIES AND ANSWER SETS ARE DELETED AT LOGOFF
LOGOFF? (Y)/N/HOLD:y
COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                         ENTRY    SESSION
FULL ESTIMATED COST                                      40.08      40.29

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)          SINCE FILE      TOTAL
                                                         ENTRY    SESSION
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